

076.355

Un 32

1933

Rec.

REVIEW OF MILITARY LITERATURE

THE COMMAND AND GENERAL STAFF SCHOOL
QUARTERLY

VOL. XIII

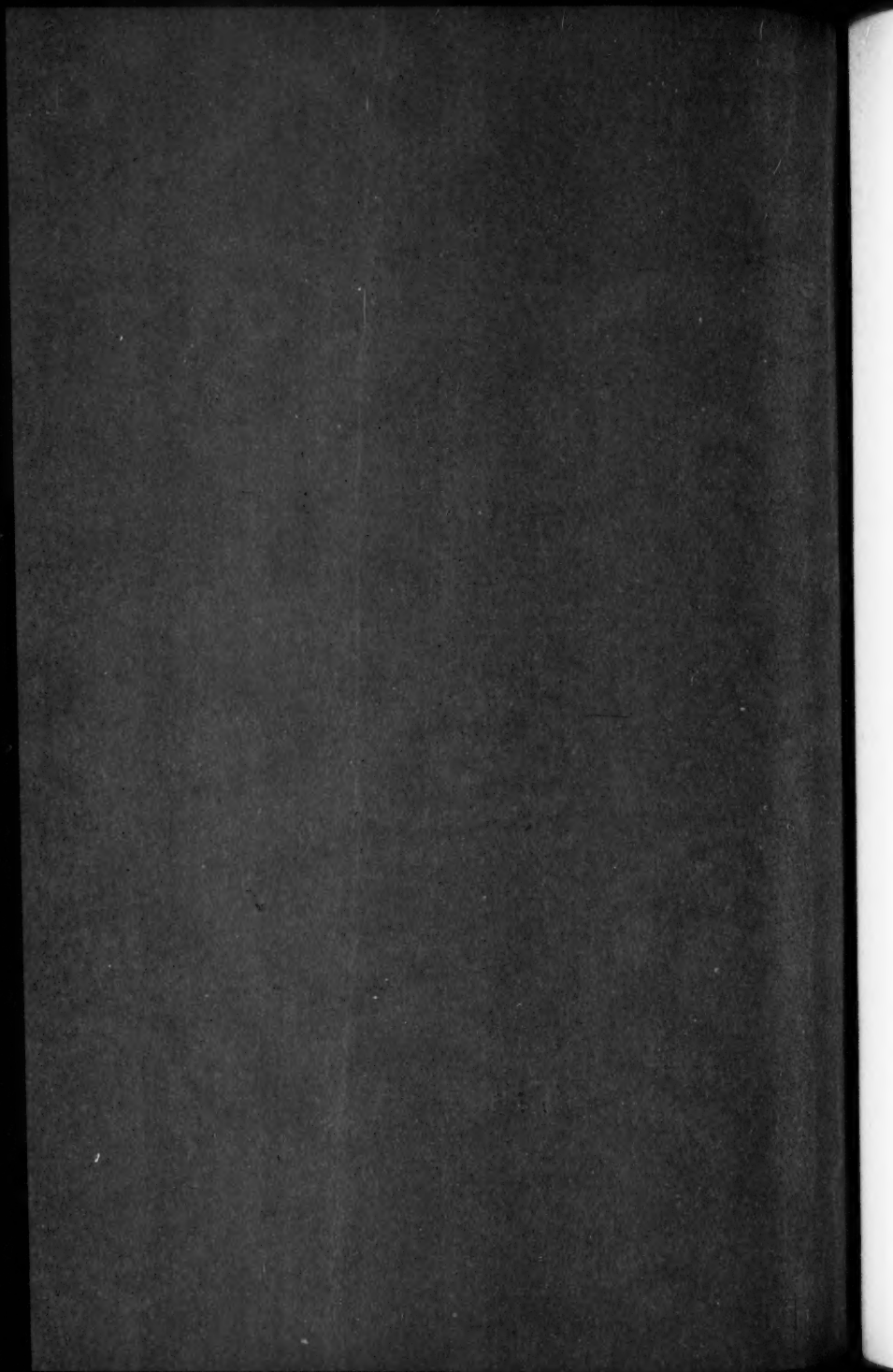
DECEMBER, 1933

No. 51



CONTENTS

	Page
French Maneuvers in the Champagne, September, 1932	5
Italian Maneuvers in 1932	22
Artillery Support of an Infantry Attack with Tanks	29
Essays of the Evolution of Infantry	34
System of Supply	38
Faulty Cavalry Employment	48
Conduct of a Holding Attack	57
Employment of Modern Independent Cavalry	136
Cavalry Action at Nery, 1 September, 1914	144
Modern War Requirements	148
Development	151
Defensive Maneuver	153
Casualties and Replacements	157
Academic Notes	99
<i>Boundaries in Attack and Defense</i>	99
<i>Assembly Positions</i>	102
<i>Tactical Principles and Decisions—Development for Combat</i>	103
<i>Tactics and Technique—Infantry (Tanks)</i>	105
Book Reviews	113
Subject Index	163



VOLUME XIII
1933-1934

U.S. Army Service Schools, Fort
Leavenworth
RML
Number 51

REVIEW OF MILITARY LITERATURE

THE COMMAND AND GENERAL STAFF SCHOOL
QUARTERLY

FOREWORD

The object of this publication is a systematic review of current military literature, through cataloging articles of professional value, in selected military and naval periodicals, in the domestic and foreign field.

Articles from foreign periodicals are treated by translations of titles and digests of contents; material of particular importance is covered by more extensive translations in a Section on "Abstracts of Foreign-language Articles."

A "Book Review" Section contains reviews of outstanding books, recently accessioned, which are of particular professional significance.

This material is published as a guide to modern military tendencies and to inspire vigorous thought on the subjects treated.

PUBLISHED QUARTERLY BY THE
COMMAND AND GENERAL STAFF SCHOOL LIBRARY

LIBRARY COMMITTEE:

Colonel W. B. Burt

Colonel F. Keller

Lieutenant Colonel A. W. Lane

Major C. A. Willoughby (Editor)

December, 1933
Second Quarter

016.355
M5N
1933
Dec.

Date 11/9/34 mss

date 11/9/34 mag

REVIEW OF MILITARY LITERATURE

Major C.A. Willoughby, Editor

Volume XIII

December, 1933

Number 51

CONTENTS

	Page
Section 1—ABSTRACTS OF FOREIGN-LANGUAGE ARTICLES	5
This Section contains translations, or abstracts, of selected articles from foreign military periodicals. Section 1 is designed to cover articles regarded as important; the remaining articles, for each magazine are listed in Section 7.	
Section 2—ORIGINAL MILITARY STUDIES	57
This Section contains original contributions by graduates of the Command & General Staff School.	
Section 3—ACADEMIC NOTES, C. & G.S.S.	99
Reprint of current School memoranda, which affect instructional procedure or tactical doctrine.	
Section 4—BOOK REVIEWS	113
Section 5—LIBRARY BULLETIN	121
Books added to Library since September, 1933.	
Section 6—DIRECTORY OF PERIODICALS	125
A guide to Section 7 and Section 8.	
Section 7—CATALOG OF SELECTED PERIODICAL ARTICLES	127
A systematic review of the contents of selected military periodicals; the articles contained therein are listed in numerical sequence. In English language magazines, only titles are quoted. Foreign language periodicals are covered in greater detail; articles are digested to a degree to furnish an adequate idea of contents and significance.	
Section 8—READERS' GUIDE AND SUBJECT INDEX	161
All subject-headings are arranged in alphabetic sequence and can be consulted like a dictionary. Note also List of Periodicals Indexed and Key to Abbreviations.	

THE COMMAND AND GENERAL STAFF SCHOOL PRESS

FORT LEAVENWORTH, KANSAS

750-2-25-34-500

Wmace.

LIST OF OFFICERS CONTRIBUTING TO THIS NUMBER

MAJOR C.A. WILLOUGHBY

Editor

	A	B	C	D	E	F
(1) Briscoe, Maj. N.B.	1					
(2) Brownell, Maj. G.S.					1	
(3) Bullard, Maj. P.C.	1					
(4) Clarke, 1st Lieut. C.W.					1	
(5) Collins, Maj. J.L.						1
(6) During, Capt. F.	5	10	3	1		
(7) Haislip, Maj. W.H.	1					
(8) Horsfall, Lt.Col. L.P.	1					
(9) Johnston, Maj. E.S.					2	
(10) Menoher, Maj. P.					1	
(11) Meyer, Maj. V.			1			
(12) Porter, Capt. R.E.					1	
(13) Smith, Maj. R.C.	2		1			
(14) Taylor, 1st Lieut. M.D.	5					
(15) Vollmer, Maj. A.	1	15	1	1	1	
(16) Wilbur, Maj. W.H.	1				1	
(17) Willoughby, Maj. C.A. (Librarian)	2	15			1	

A—Foreign Language Periodicals; B—English Language Periodicals;
C—Abstracts of Foreign Language Articles; D—Foreign Language
Book Reviews; E—English Language Book Reviews; F—Original Studies.

Maj. N.B. Briscoe: *Revue de Cavalerie* (July-August, September-October 1933).

Maj. P.C. Bullard: *Revue du Génie Militaire* (January-February, March-April 1933).

Capt. F. During: *Esercito e Nazione* (April, May 1933); *Militärwissenschaftliche Mitteilungen* (June, July, August, September 1933); *Rivista di Artiglieria e Genio* (January, February 1933); *Wehr und Waffen* (January, February 1933); *Wissen & Wehr* (May, July, September 1933).

Maj. W.H. Haislip: *Bulletin Belge des Sciences Militaires* (July, August 1933).

Lt.Col. L.P. Horsfall: *Revue d'Artillerie* (August, September, October 1933).

Maj. R.C. Smith: *Revue d'Infanterie* (March, April 1933); *Revue Militaire Française* (June 1933).

1st Lieut. M.D. Taylor: *Revista de Estudios Militares* (May, June 1933); *Revista del Ejercito y de la Marina* (May, June 1933); *Revista Militar* (May, June 1933); *Revue des Forces Aeriennes* (June, July, August, September 1933); *Revue d'Histoire de la Guerre Mondiale* (January, April, July 1933).

Maj. A. Vollmer: *Militär-Wochenblatt* (4 July-11 September 1933, inclusive).

Maj. W.H. Wilbur: *Revue d'Infanterie* (May 1933).

Maj. C.A. Willoughby: *Revista del Ejercito y de la Marina* (March 1933); *Revue Militaire Française* (April, May 1933).

Section 1

ABSTRACTS OF FOREIGN-LANGUAGE ARTICLES

This Section contains translations, or abstracts, of selected articles from foreign military periodicals. Section 1 is designed to cover articles regarded as important; the remaining articles for each magazine, are listed in Section 7.

CONTENTS

	Page
French Maneuvers in the Champagne in September 1932.....	5
Italian Maneuvers in 1932.....	22
Artillery Support of an Infantry Attack with Tanks.....	29
Essays on the Infantry. The Direction of its Evolution.....	34
System of Supply.....	38
Faulty Cavalry Employment. Battle at Pillon, 10 August 1914.....	48

THE FRENCH MANEUVERS IN THE CHAMPAGNE IN SEPTEMBER 1932

["Die französischen Manöver in der Champagne im September 1932."
Wissen und Wehr, July 1933.]

Abstracted by Captain Fred During

Until recently the French military leaders were rather reluctant about motorization of military units on a large scale. It was considered best to await further technical developments before expending large sums on material which would quickly become obsolete. But since motorization as a means for war and transportation has now been fully developed, motorization of the French army will take place in a short time. The purpose of the maneuver was to test and determine to what extent motorization of complete units should be undertaken. The maneuver was of such importance to the French, that everything pertaining to the maneuver was kept secret. Military attaches, with the exception of those of Belgium, Poland, and Czechoslovakia, were not permitted to participate. The entire maneuver area was closed.

The advance into and the different phases of battle of small and larger motorized units were to be tested and a comparison of the efficiency of motorized forces with that of non-motorized forces was to be made. Special importance was placed on the cooperation between motorized units and aviation.

Many new models were tested. We wish to mention the new fast armored cars "Citroen" 1932, an ammunition tank for placing infantry ammunition on the front line, light armored reconnaissance cars, armored trucks for transportation of men, and new trucks for the transportation of "Dragons portee."

The maneuver was divided into two phases:

First phase, September 19th to 22d: Motorized 15th Infantry Division against the non-motorized 2d North African Infantry Division. September 22d to 25th, return of the 15th Infantry Division to home stations. Concentration of the partly motorized 1st Cavalry Division and the non-motorized 2d North African Infantry Division preparatory to the second phase of the maneuver.

Second phase, September 26th to 29th: Partly motorized 1st Cavalry Division against the non-motorized 2d North African Infantry Division. Prior to this maneuver, each division held its own maneuver as follows: 15th Division near Chalon, 2d North African Division near Maily, and the 1st Cavalry Division near Sissonne.

The terrain, on which the battle of the Marne (German Third and Fourth Armies) and the trench battles in the Champagne were fought, was selected for the maneuver. (See sketch No. 1.) Certain roads were reserved for use of heavy and slow cars and others for use of light and fast cars. The weather, with the exception of the last two days, was unfavorable. It rained continually, which made flying very difficult.

General Gamelin, Chief of Staff of the French Army, personally played the role of the commanding generals on each side. He turned his staff over to General Maurin, Inspector of Artillery and Motorization, and General Pujo, commanding general of the 2d Air Division, to act as advisors in questions of motorization. General Weygand, Inspector General of the Army, was present at the maneuver. The Secretaries of War and Air were present for several days.

In addition, the leading manufacturers of French motor vehicles were present. General Hering, with a large staff, was the Chief Umpire, Colonel Duseigneur with his staff, was Umpire for aviation.

40,000 men took part in the maneuver. The Army motor transport group consisted of 109 officers and 4,568 enlisted

men, 1,453 trucks and cars of all kinds, and 98 cars with trailers. The motorized cavalry regiment (Dragons portee) consisted of 87 officers, 3,050 men, 459 trucks, and 177 motorcycles. During the second phase of the maneuver, 4,000 motor vehicles were used. 350 airplanes and 3,500 men of the flying corps participated.

Blue situation: Enemy is detraining forces along the line: Romilly sur Seine—Troyes—Brienne—St. Dizier. Strong forces are preparing a defensive position on the general line: Bar le Duc—Vitry le Francois—Maily—Fere Champenoise—north of Sezanne. The motorized X Infantry Division (assumed) advances on September 19th on Montmort and on September 20th on Sezanne. The motorized 15th Infantry Division, crossing the Marne near Chalon, advances on September 19th on Maily with the mission to attack the enemy and drive him to the south. The Y Infantry Division (assumed) advances on September 19th on Bussy le Repos and on September 20th on Vitry le Francois. Boundaries between divisions: (see sketch No. 1). The city of Chalon is neutral. The advance was to start at 3:00 PM, September 19th, but reconnaissance detachments and part of the advance guard advanced on September 18th, close to the Marne northwest of Chalon.

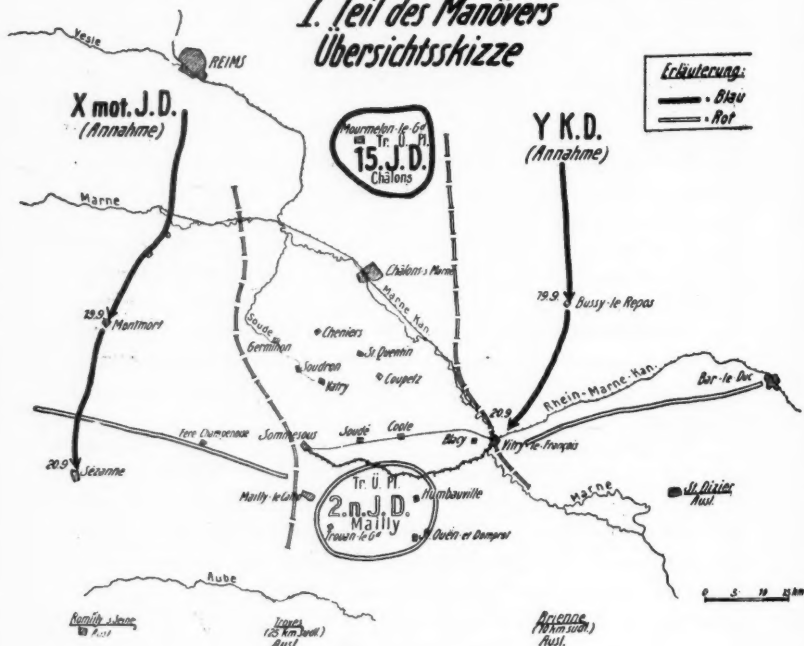
Red situation: A Red army corps of 3 divisions will prepare for an active defense on the general line: Bar le Duc—Vitry le Francois—north of Sezanne with the mission to protect the detraining and concentration of additional forces. The 2d North African Infantry Division, an interior division, will defend the line: Vitry le Francois (excl.)—Maily le Camp (incl.). The bridges at Chalon have been destroyed by our flyers. Blue motorized forces are concentrated near Chalon since September 18th. The advance will start 3:00 PM, September 19th.

Blue organization during the first phase of the maneuver from September 19th to 22d: Reinforced 15th Infantry Division, motorized. Commander: General Besson. The division consisted of: 4th Infantry, motorized, without animals; 27th Infantry, motorized, with mounted platoon, 90 horses; 134th Infantry, motorized, without animals; motorized divisional reconnaissance detachment, one regiment of artillery 75-mm. (3 battalions), heavy divisional artillery, 150-mm. howitzer

(2 battalions), balloon company, engineer battalion, communication detachment, all motorized. Attached troops: Motorized 309th Artillery (75-mm.). One regiment army artillery. One antiaircraft detachment, one battalion of light and fast armored cars (from Sept. 21st). One army motor transport group, one corps and one division observation squadron, four pursuit and four bombing squadrons; motorized supply trains.

I. Teil des Manövers

Übersichtsskizze

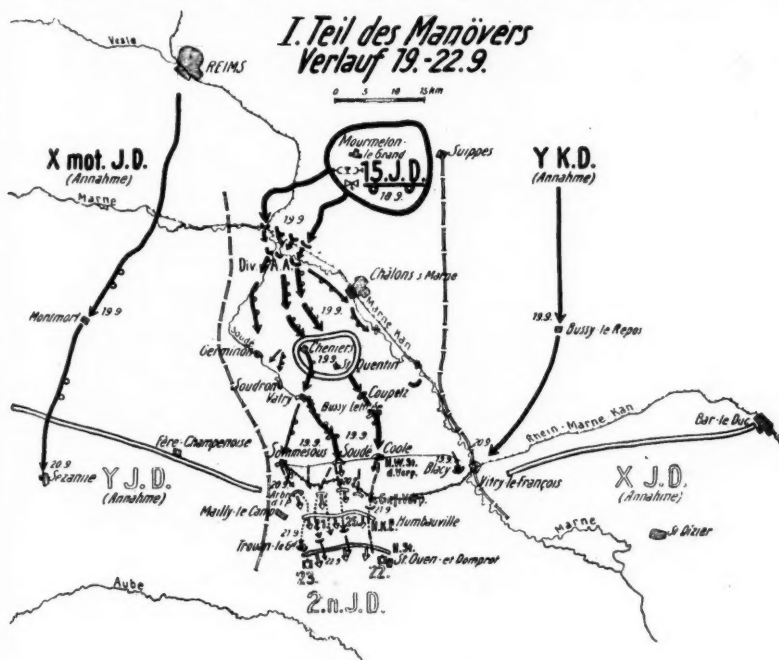


First part of the maneuver
General Situation
Sketch No. 1

Red organization: Reenforced 2d North African Infantry Division. Commander: General Pichot-Duclos. The division consisted of two brigades of infantry (2 regiments each), one regiment of artillery (75-mm.), one regiment heavy artillery (2 battalions 105-mm., 1 battalion 155-mm.), partly motorized divisional reconnaissance detachments, partly motorized engineer battalion, partly motorized communication de-

tachment. Attached troops: One regiment army artillery, one corps and one division observation squadron, one antiaircraft detachment, four pursuit and four bombing squadrons; motorized supply trains.

On September 19th, orders were issued to the Blue divisional reconnaissance detachment to reconnoiter the position of the enemy. It was the intention of the division commander to bring the division in trucks as near the enemy as possible. The 4th Infantry with one regiment of artillery (75-mm.) was the advance guard, marching in two columns, followed by the remainder of the division. (See sketch No. 2.)



First part of the maneuver
September 19-22
Sketch No. 2

Both sides started the maneuver with aerial reconnaissance. The Blue advanced troops took possession of the bridges over the Marne northwest of Chalon at 6:00 AM,

September 19th, and under cover of a bridgehead, dispatched the reconnaissance detachment on a broad front to the south at 6:30 AM. It met a Red reconnaissance detachment, which was driven back. Cheniers was reached at 8:30 (12 km. in 2½ hours). At this place the Blue reconnaissance detachment met strong opposition, which was broken only after the Blue advance guard had gotten into action. At 11:00 AM an attack was made against the line: Germinon—Soudron—Vatry and another attack against Coupetz. At noon, all towns had been taken and the reconnaissance detachment was placed under control of the advance guard commander. During the afternoon the Red advance guard was gradually driven back to the road: Sommesous—Soude—Coole, where the Blue advance guard met new opposition. The march of the motorized advance guard as well as the main body met with many difficulties, which were partly due to attacks by aviation. The division commander decided therefore to make the crossing of the main body over the Marne at night; this caused a distance of 30 km. between the advance guard and the main body. The advance guard covered a distance of 40 km., fighting practically all the way.

The Red division occupied a defensive position in depth, with one brigade occupying the main line of resistance. One regiment of infantry was in division reserve, to the left rear. (See sketch No. 2.) The reconnaissance detachment, reenforced with troops carrying explosives, had the mission to blow up the bridges on both sides of Chalon. They were successful only on the southeast of Chalon. One regiment of infantry, reenforced with one battalion of 75's, had the mission to delay the advance of the Blue forces from the line: Coupetz—Vatry. Towards evening this regiment received orders to place itself in rear of the right flank of the position, which gave the division commander two regiments as division reserve. The artillery was about 2 km. in rear of the main position, and with a few batteries moved forward in order to interdict road crossings. The defensive position was thoroughly prepared against an attack by motorized troops.

The Blue and Red advance guards were in close contact during the night of September 19-20.

At 8:00 PM two columns of the main body of the Blue forces commenced the crossing of the Marne, using 8 bridges.

Large calibre pieces and heavy armored trucks were ferried. The antiaircraft detachment prevented aerial attacks. The crossing was completed at dawn September 20th. The division assembled in the area: St. Quentin—Cheniers. Enemy artillery fire caused some casualties here. At daybreak September 20th, the Blue advance guard continued its march to the south. At 10:00 AM the heights of Arbres de la Perthe were taken and the railroad line: Sommesous—Vitry le François was reached.

The Blue main body began its development from the line: Bussy—Lettree—Coupetz, at 6:00 AM, September 20th. Many halts had to be made by the motor columns. Red aviation was very active and caused much interruption in the development. From 10:00 AM to 3:30 PM the troops rested and when the action continued at that time, the main body overtook the advance guard, which then became division reserve. Towards evening the division stood on a 12 km. front opposite the enemy outpost line. In spite of bad weather and careful camouflage, the Blue aviation was successful in obtaining full information of the Red position and the location of many artillery positions. The maneuver was called off until 5:00 AM, September 21st.

On September 21st the maneuver continued with the following situations: "The Red Outpost Line has been taken by the Blue troops during the night." The Blue division placed 3 regiments in the front line, placing its main strength on the right flank. Artillery preparation started at 5:00 AM. The division received a battalion of light and fast armored cars.

The attack started at 7:00 AM. The armored cars preceded the infantry, but suffered heavy losses. Due to the woody terrain, it was impossible for artillery and aviation to support the armored cars. About noon the west part of the main line of resistance was broken through. This success was immediately exploited and the Blue division was able to advance its right flank to the next heights, which gave it all important observation points. A Red counterattack came too late and the Red division was forced to withdraw to its second position. The maneuver was then called off for the night.

At 7:00 AM, September 22d, the Blue division artillery started its preparation and at 8:00 AM the division began

its attack, making the main effort in the west on a 3 km. front. At 11:00 AM the second Red line was taken. Much credit was due to the motorized detachments, concentrated fire of the artillery, and attacks by massed aviation. The Red aviation bombed the Blue forces without success. The counterbattery fire by the Red artillery was also unsuccessful. Blue motorized detachments took up the pursuit, playing the same role as was played formerly by the cavalry.

At noon the first phase of the maneuver was called off. At no place was it possible for the Red division to stop the attack of the Blue division. A division consisting of four regiments of infantry had to give way to a motorized division of only three regiments of infantry.

During the next few days the 15th Division left for home and the troops for the second phase of the maneuver concentrated in their respective areas.

Second phase of the maneuver: General situation: (See sketch No. 3.) Two armies (Blue [north] and Red [south]) are opposing each other on the general line: Vigneulles les Hattonchatel—Morchingen. Both armies intended to envelop the west flank of the opposing army. For this purpose a corps of several divisions had been organized by each army with the mission to attack the west flank.

Blue situation: A Blue corps (assumed) has completed detrain- ing in rear of the line: Vouziers—Dun sur Meuse. Enemy forces are advancing from the south with the mission to take the Argonnes and the Fortress of Verdun. This mission was deduced from the fact that on September 23d, Red aviation bombed successfully the railroad leading via Reims, Voursiers, and Dun sur Meuse to Verdun.

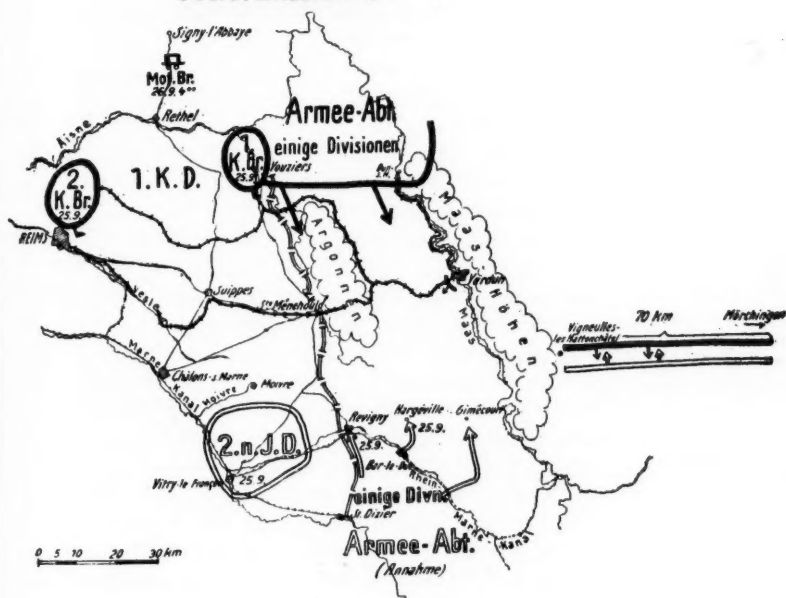
The Blue corps (assumed) advances on September 26th to the south with the mission to reach the line: Ste. Mene- hold—Verdun.

The Blue 1st Cavalry Division, which completed detrain- ing on the evening of September 25th, north of Reims (reen- forced 2d Brigade) and at Vouziers (reenforced 1st Brigade), advances on September 26th to the south or southeast, with the mission to protect the right flank of the Blue corps. A motorized brigade will come under control of the 1st Cavalry Division at 4:00 AM, September 26th, at Signy l'Abbaye.

Enemy forces, estimated to be an infantry division, are in the vicinity of Vitry le Francois. Additional enemy forces are detraining at St. Diziers.

Red situation: A Red corps (assumed) having reached the line: Gimecourt—Hargeville—Revigny, intends to continue its advance to the north on September 26th and 27th to gain the line: Verdun—Ste. Menehould. Additional forces are concentrating in the area: Bar le Duc—St. Dizier.

II. Teil des Manövers Übersichtsskizze



Second part of the maneuver
General Situation
Sketch No. 3

The reenforced 2d North African Infantry Division is concentrated in the vicinity of Vitry le Francois. This division has orders to have its advance guard reach the line: Ste. Menehould—Suippes—Chalons. Its mission is to pro-

tect the advance of the Red corps against attacks from the directions Remis toward Chalons and from Vouziers toward Ste. Meneshould and to assist the Red corps in its advance through the difficult Argennes.

Enemy forces, apparently cavalry, are concentrated in the areas at Vouziers and north of Reims. Motorized units are at Signy l'Abbaye.

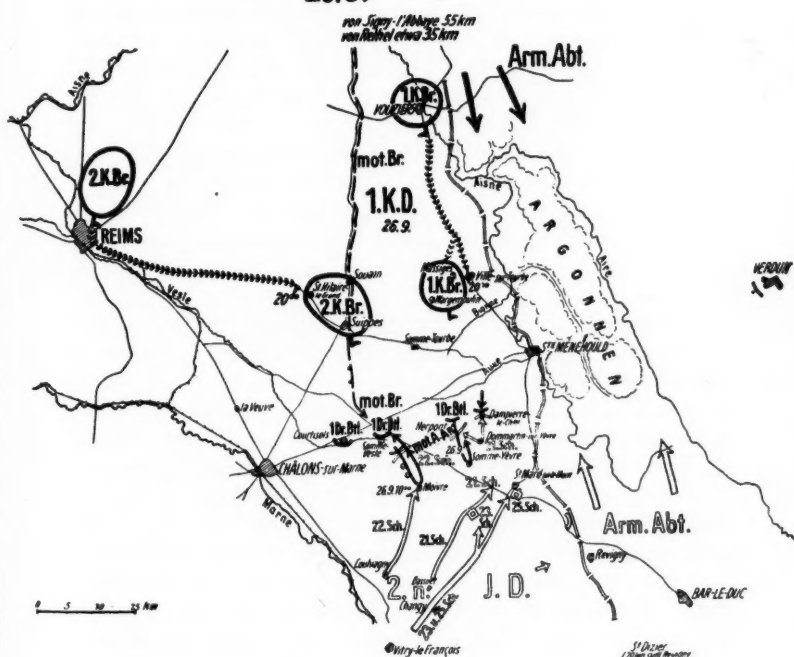
Blue organization: Partly motorized 1st Cavalry Division. Commander: General Boucherie. 1st Brigade consisting of 3 regiments of horse cavalry. 2d Brigade consisting of 2 regiments of horse cavalry. Motorized brigade consisting of $\frac{1}{2}$ armored trucks detachments of 3 squadrons each, one motorized cavalry regiment, one light and fast armored car battalion, one motorized regiment of artillery (75-mm.), one regiment horse artillery (2 battalions 75-mm.), one motorized battalion heavy artillery (105-mm.), one motorized engineer detachment and one motorized communication detachment. Attached troops: one antiaircraft detachment, one corps and one division observation squadron, 4 pursuit and bombing squadrons.

Red organization: Same as in first phase of the maneuver.

The division commander of the Blue division decided to concentrate his forces in the direction of the enemy and to advance south, starting at 4:00 AM, September 26th. The aviation was to reconnoiter to the line: Vitry le Francois—St. Dizier, to destroy the railroad station at St. Dizier and to protect the advance of his forces, which had to be made over an open terrain. The motorized brigade was to advance on Movre, via Rethel and Suippes with the mission to protect the advance of the Blue division of cavalry south of the road: Chalons—Ste. Meneshould. The 2d Brigade and a mounted detachment was to march via Reims into the area: Suippes—Ste. Hilaire. The 1st Brigade to march into the area War-gemoulin—Massiges. The roads over which the remainder of the troops were to march are not known. The advance elements of the motorized brigade crossed the Aisne at Rethel and reached the line: Suippes—Somme Tourbe at 8:00 AM, September 26th (50 km. in 2 hours). Here the Reds put up a strong opposition, and during the first part of the afternoon drove the Blues back to Somme Vesle and Herpont. In the meantime the main body of the Blue motorized brigade had

reached Souain and for some time was stopped here on account of exaggerated unfavorable reports. It was not until 4:00 PM that the brigade reached the vicinity of the battlefield. In order to protect the crossings over the Vesle and Aube, the brigade commander decided to place a squadron of cavalry at Coutisols, north of Somme Vesle and north of Herpont. The other two Blue brigades reached their respective areas at 8:00 PM.

II. Teil des Manövers 26.9.



Second part of the maneuver
September 26
Sketch No. 4

The division commander of the Red division decided to march on Ste. Mennehold as follows: The aviation to recon-

noiter to the line: Vouziers—Signy l'Abbaye—Reims. It was to attack any enemy column coming from this line. The divisional reconnaissance detachment, reenforced by infantry in trucks and several artillery pieces, to reconnoiter to the line: Ville sur Tourbe—Suippes—La Veuve (northwest of Chalons). The reenforced 25th Infantry to march on St. Mard sur le Mont with the mission to protect the right flank. The reenforced 21st Infantry to march on the road crossing 2½ km. west of St. Mard. The reenforced 22d Infantry to march on Moivre to cover the left flank. The 23d Infantry heavy artillery, etc., to march in rear of the 25th Infantry as division reserve.

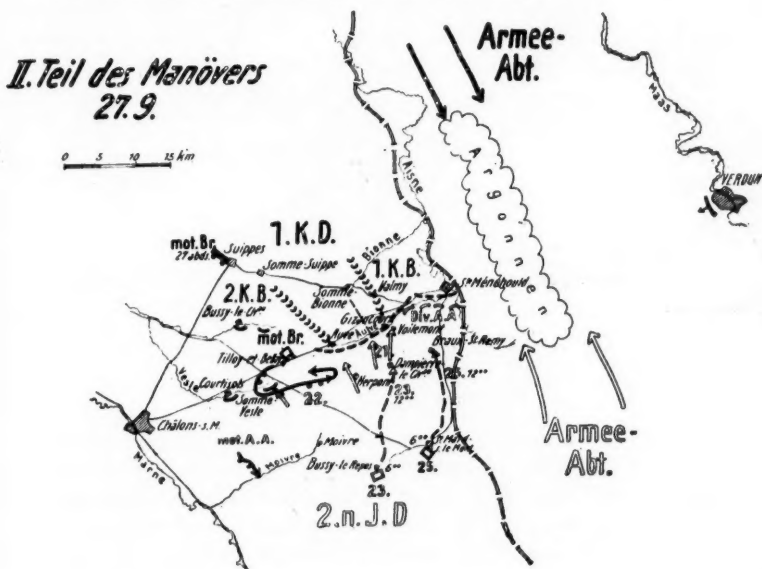
When the Red commander received a message at 8:00 AM that strong motorized forces were marching south, he immediately changed direction of march of his division, which enabled him to place 2 regiments against the enemy at noon. At 6:00 PM the maneuver was called off until the next day. At this time the Reds had 2 regiments opposing the Blues and 2 regiments in a second line 10 km. in the rear.

In spite of wind and rain, aviation on both sides was very active and kept their respective commanders constantly informed of the situation. Several times the flyers attacked the ground forces.

The commander of the Blue division decided to have the motorized brigade advance in a southeasterly direction on September 27th and to have the other two brigades prepare to attack east of the motorized brigade. A motorized reconnaissance detachment was sent out to determine the west flank of the Reds. The Reds made strong attacks against the Blue motorized brigade and drove it back, which forced the commander of the Blue division to have the 1st and 2d Brigades relieve the motorized brigade and to keep the crossings over the Auve from southwest of village Auve to Voilemont open. The relief of the motorized brigade was successful and it assembled near Tilloy et Bellay. Both sides fought stubbornly for the possession of the crossings. At 1:00 PM the weather, which had been bad all morning, cleared and the commander of the Blue division decided to counterattack with the motorized brigade. The Blue motorized reconnaissance detachment was to attack the rear and the motorized brigade the west flank of the Red division. The Reds were prepared

for this and the attack failed. The motorized brigade withdrew to Suippe and Somme Suippes.

The Red commander decided to continue the attack energetically to the north and he ordered the 21st and 22d Infantry to drive the enemy across the road: Ste. Menehould—Chalons. The 23d and 25th Infantry advanced to a position about 5 km. in rear of the front line. The Red divisional reconnaissance detachment attacked on the right flank towards Ste. Menehould. Only few units of the 21st Infantry, which was on the right of the line, were able to hold the north bank of the Aube. The 22d Infantry was under the impression that the motorized Blue forces would again attack, which made it over-cautious and therefore gained little territory. We see that the attack of the Blue motorized brigade, which otherwise had failed, was successful in that respect.



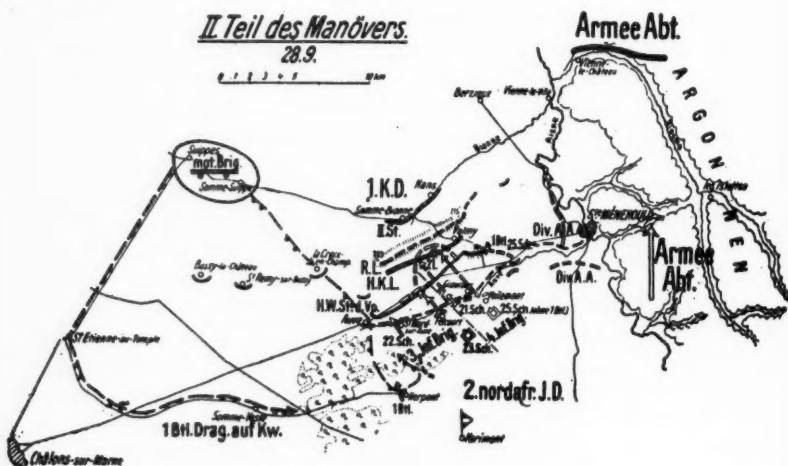
Second part of the maneuver
September 27

Sketch No. 5

On account of bad weather the aviation was inactive during the morning hours and very little flying was done during the afternoon.

At 4:00 PM the maneuver was called off until the next morning.

The maneuver started on September 28th with the following situation: "The attack of the Blue division against the flank of the Red division has been unsuccessful. The Blue corps has gone on the defensive with its right flank resting on Vienne le Chau. The Blue division will protect the right flank of the corps from a position at and south of the Bionne."



Second part of the maneuver
September 28
Sketch No. 6

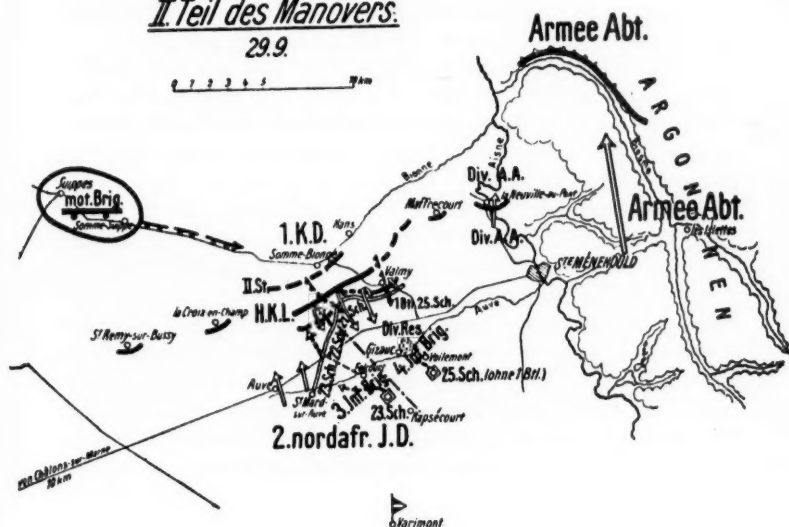
The Blue division commander took up a defensive position on the heights of Valmy. (See sketch No. 6.) The first position was held with 3 regiments and the second position with 2 regiments. The motorized brigade was ordered to attack the Reds in flank and rear in order to delay their advance.

The commander of the Red division decided to attack at 10:30 AM, on a 5 km. front on the line: Gisaucourt—St. Mard sur Aube. His right flank was protected by a battalion of the 25th Infantry and the divisional reconnaissance detachment. Each brigade held a regiment in reserve. The attack

was supported by all artillery and aviation. The Red advance elements reached the road: Ste. Meneshould at 11:00 AM. The security detachments of the Blue division had withdrawn according to plan. It was not until 2:50 PM, before the attack could be launched from here and then only with the 21st Infantry and one battalion of the 22d Infantry. The two regiments in reserve were still south of the Auve. The reason that the left Red flank was unable to advance was

II. Teil des Manövers:

29.9



Second part of the maneuver

September 29

Sketch No. 7

that the motorized Blue brigade attacked the extreme left flank at 3:45 PM successfully, and then continued eastward until stopped by the formed units of the 3d Red Brigade. Previously to this, units of the motorized cavalry had attacked the rear echelon of the Red division from the direction of Somme Vesle. At 2:00 PM another detachment made a surprise attack toward Ste. Meneshould. At 5:00 PM the Reds broke through the Blue main line of resistance on a 3 km. front, southwest of Valmy.

Aviation was very active this day and kept both commanders well informed.

The maneuver was called off at 6:00 PM until the next day.

During the night the Blue commander received orders to fight delaying action, and he decided to defend the heights of Valmy step by step. The regimental reserve line of yesterday became the new main line of resistance. The 1st Brigade was ordered to fight tenaciously in order to permit the motorized brigade to counterattack the flank of the penetration at an opportune time.

The Red commander ordered the continuation of the attack. He placed the 23d Infantry on the left of the line. The 25th Infantry (less one battalion) was in division reserve at Gizaucourt. After an artillery preparation of 25 minutes, the attack started at 7:00 AM.

The Blue security detachments withdrew slowly until 9:00 AM, at which time the Blues put-up a strong resistance. Low flying aviators smoked the southeast edges of the heights down to the Auve and Red observation posts. At the same time, motorized units came down the heights from the northeast and northwest. In spite of immediate defensive fires by the Red artillery, the Blues drove the Reds back to the Auve. It was impossible for the Reds to renew the attack this day. Attack aviation came fully into its own today.

At 10:00 AM the maneuver was concluded.

DISCUSSION

According to French views, the situation at the beginning of the maneuver was tactically and technically correct. It must be noted, however, that the 15th Division concentrated 40 km. from the enemy front. We wish to mention that in the second phase of the maneuver, leaders were given the widest latitude in their decisions, etc.

We can count on the fact that in 1933, 2 or 3 divisions will become fully motorized and that several cavalry divisions (horse) will become inactive. The cavalry divisions will be organized similarly as the one used in this maneuver. The divisional reconnaissance detachments of the divisions which are stationed at the boundary will be motorized. The munition vehicles will be motorized to a large extent.

This maneuver has brought out again that an attack against modern automatic weapons is only possible with the use of armored cars and weapons, which are capable to go across country.

The 15th Division in the attack against the prepared position of the 2d Division, massed its forces on September 21st on a 5 km. front, on September 22d on a 3 km. front. The 2d Division attacked the cavalry on a 5 km. front. In the defense the 2d Division had a frontage of 12 km., while the cavalry had a frontage of 5 km.

It has been proven by the advance of the 15th Division in trucks, that when it is known that an enemy will be met, a motorized division cannot advance faster than a regular division, even if the motorized division does not stop as often as did the 15th. In actual warfare the advance would have been stopped by enemy aircraft. The effect of distant interdiction fire by the artillery was not considered sufficiently by the commanders.

The question of security and reconnaissance in an advance of motorized division is important. If the security detachments are held too close to the main body, their function as a security detachment is lost and when the security detachments advance too fast and too far, the main body is subject to a surprise attack. It is considered necessary therefore, to protect the main body by additional units which must place themselves between the main security detachment and the main body.

According to French views the principle of attack is not changed by the use of motorized units. The different phases of battle perhaps follow each other more rapidly.

It is considered wise to use armored cars to fight machine gun nests. But a well planned antitank defense will cause the enemy many casualties. Infantry should always accompany tanks and armored cars as heretofore.

After a successful breakthrough, motorized units are better suited for pursuit than is cavalry. It seems strange that the speed of the motorized brigade was not greater than that of the regular cavalry.

That the presence of motorized units has a decided influence on the action of the enemy is seen by the formation of the advance of the 2d Division and also by the careful

economy of troops at the beginning of the attack as well as during the attack. What success can be expected from motorized units is plainly brought out during the maneuver. Surprise attacks against the flanks or fronts may become decisive.

Besides adopted models many new models of motorized vehicles were tested during the maneuver. Each day many questions had to be studied with mathematical precision. The principle for the construction of all armored cars has been: Speed before armored protection. But today the technical development makes it possible to combine both and the new tank looks very much like the old Renault, but has a speed of 24 km. across terrain against 10 km. of the old Renault.

The antitank defense was carefully prepared and was successful when the attack was not a complete surprise and when the enemy observation posts were not smoked.

We wish to mention that an armored truck was used in this maneuver, capable of transporting an entire platoon of infantry. It is also of interest that the auto busses used for tourist trade are constructed according to specifications issued by the Secretary of War. This allows the busses to be used to transport troops in the case of war, without having to change the busses.

Many more airplanes were used in this maneuver than would be the case in actual war. A squadron of civilian flyers were used as contact planes. It is remarkable that among 350 planes there was only one accident.

The maneuver has shown that the French Army teaches the war of movement and the attack. The large number of motor vehicles used in the maneuver shows that France is far ahead of any potential enemy.

Minister Painleve said on October 12, 1932: "The motorization of the army has been decided. This will enable us to quickly and secretly concentrate troops and material. The secret concentration makes it possible to surprise the enemy."

THE ITALIAN MANEUVERS IN 1932

["Die italienischen Groszen Manöver 1932." Wissen und Wehr, September 1933.]

Abstracted by Captain F. During

The Italian maneuvers took place in the area: Perugia—Assisi—Gubbio, in the province of Umbria, during the latter

part of August 1932. This was the first free maneuver of two corps since the late war.

The mission of the Blues was to advance against Red troops, located in the vicinity of Pergola and drive them back. The mission of the Red troops was to advance against Blue troops, located east of the Tyrrhenian Sea, and drive them back. Both forces were the south flank of assumed larger forces.

The Blue VII Corps consisted of the 19th and 20th Divisions, while the Red VI Corps consisted of the 18th Division and the 2d Cavalry Division. The Blue corps troops consisted of one bicycle regiment (Bersaglieri) of 2 battalions; 3 battalions heavy field artillery, 3 battalions 10 cm. cannons, 2 battalions 15 cm. cannons, 1 antiaircraft battalion (all motorized); 1 battalion light armored cars and 2 observation squadrons. Besides the necessary communication, medical, and supply detachments, it had one balloon company. The Red corps had the same corps troops with the exception of artillery, which consisted of only 2 battalions heavy field artillery and 2 battalions of 10 cm. cannons.

The Infantry divisions each had 3 regiments of Infantry, 2 Black Shirt battalions, one horse artillery regiment of 2 battalions field pieces (75-mm.), one battalion light howitzers (105-mm.), and one battalion mounted pieces (75-mm.); necessary communication, medical, and supply detachments; one platoon chemical troops and one truck column for troop movements.

The cavalry division consisted of one brigade of 3 regiments of cavalry, 2 bicycle battalions, 2 battalions of horse and 2 battalions of motorized artillery, 2 companies of armored cars and one communication platoon.

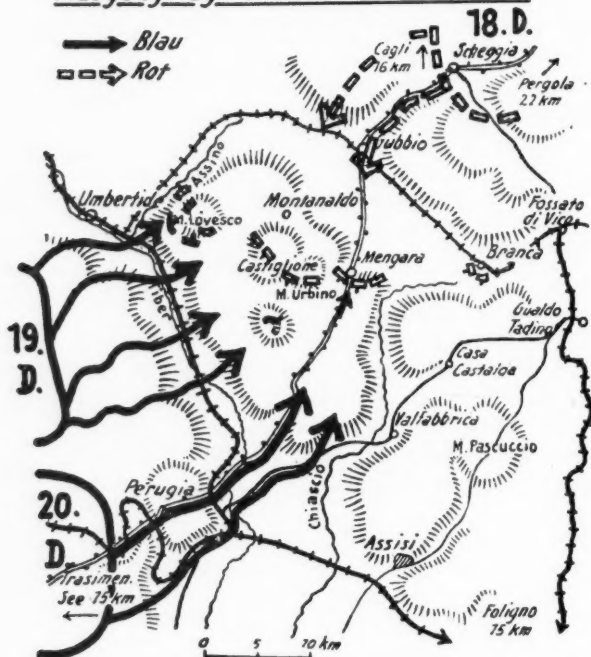
The Infantry was at war strength. The artillery battalions had 2 batteries, 2,000 officers, 40,000 men, 6,000 animals, 285 field pieces, 54 armored cars, and 2,000 trucks participated in this maneuver.

General Graziola, who was in charge of the maneuver, had two-thirds of the 22d Division, one chemical company, 2 squadrons day bombers, one squadron each of pursuit and attack planes at his disposal.

The maneuver area was in a mountainous region, causing much hardship on the troops. The heights were rocky and

open, vehicles could not leave the roads. On the evening of August 20th, the Blues received information that strong Red forces were at Cagli, that Red cavalry and bicyclists were at Pergola, and that Red bicyclist troops had been seen near Gubbio. The Blue VI Corps was to advance via Perugia and Scheggia on Cagli. The crossings over the Tiber were in the hands of the Blue bicyclists.

Ausgangslage u. Vormarsch am 21. 8.



Advance on August 21

Sketch No. 1

At 4:00 AM, August 21st, the Blues began their advance on a broad front and in many columns, with the mission to reach that day the heights of Urbine-Castiglione. One bicycle battalion each reconnoitered the roads: Perugia—Gubbio and Umbertide—Gubbio, while the aviation had to reconnoiter to the line: Fossato di Vico—Scheggia. In order to

prevent a surprise attack against the south flank, one infantry battalion in trucks followed the bicyclists on the road Perugia—Gubbio.

The 20th Division advanced in 2 columns and the 19th Division in 4 columns. The corps attached to each division one battalion of heavy howitzers. The remainder of the corps artillery followed the main column of the 20th Division. The Black Shirt battalions were under corps control. After a 25 to 30 km. march, the troops reached the heights east of the Tiber by noon and went into camp.

Early on the 21st, the Reds received the information that Blue bicyclists had been seen in the valley of the Tiber. The corps commander had at his disposal only the 18th Division. The cavalry division did not complete its concentration until August 22d. He decided to occupy and to hold the heights west of Gubbio until the arrival of other corps troops. He intended to place the cavalry division against the south flank of the Blues, in order to divert their attention and then to attack with the 18th Division. The aviation had to reconnoiter to the Tyrrhenian Sea and south of Perugia; the bicycle regiment had to reconnoiter between the Assino and Chiascio valley. One battalion of infantry each were to follow the bicyclists and take possession of the Lovesco, Castiglione, and Mengara. All three heights were reached and prepared against an attack by the Blues. Three battalions of the division artillery and one battalion of the 10 cm. cannons were sent forward to the heights, while the mass of the division advanced in 2 columns on Gubbio. The 2 Black Shirt battalions were in division reserve. At noon the division reached the vicinity of Gubbio and went into camp.

The Red commander showed leadership based on actual conditions and situations, when he advanced sufficiently strong forces of infantry and all mobile artillery to take the heights southwest of Gubbio before the arrival of the Blues.

The Blues continued the advance on August 22d. The Blue 20th Division was to attack in the direction: Mengara—Gubbio, while the Blue 19th Division was to take the Castiglione. The main effort was to be made by the 20th Division, in rear of which were all of the corps artillery and the armored car battalion. The Blue 22d Division was to reach the vicinity

of Perugia. The corps withdrew the bicyclist troops from the Lovesco and Mengara, and placed them under corps control.

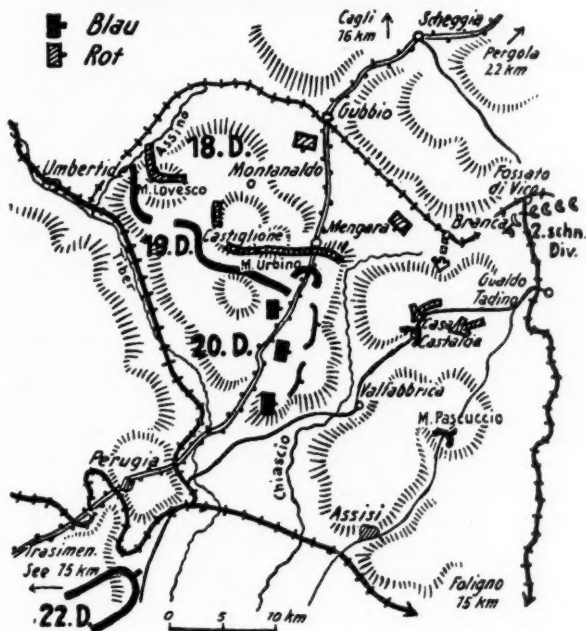
During the morning of August 22d, the Red infantry went into position on the heights southwest of Gubbio, keeping the 2d Black Shirt battalions and one battalion of bicyclists as reserve in the valley of Gubbio. The Red 18th Division had orders to hold this position, in order to attack later in conjunction with the cavalry division, which had started to march from Pergola at 4:00 AM, with the mission to advance via Fossato di Vico and to attack the south flank of the Blues. That way the Reds hoped to weaken the expected Blue attack against the Red 18th Division. Reaching the vicinity of Branca at 3:00 PM, the cavalry divisions sent the bicyclist regiment, reenforced by 2 battalions of motorized artillery and the company of light armored cars, to secure the pass of Casa Castalda. The leading battalion met Blue resistance, which it was unable to overcome. As soon as the Blue commander heard that the cavalry division was on the march, he ordered one battalion of bicyclists to close the pass; another battalion followed during the night. While the cavalry division did not advance beyond Branca, it caused the Blues to take in addition to the bicyclists, 4 battalions from their main effort (20th Division), and sent it to Valfabbrica. The Blues kept their reserves intact. The cavalry division faced a 14 km. defensive line. The attack of the Blue 20th Division was made with only 3 battalions.

After a day of rest, the maneuver continued on August 24th. The Blue corps attacked under cover of smoke and threw the Red outpost from the heights. At the Urbino and at Mengara the Blue attack met an attack of 7 Red battalions. Urbino remained in the hands of the Blues, while on the front of the Red 18th Division the situation remained the same. The cavalry division, reenforced by a battalion of bicyclists, attacked north of Valfabbrica, with 2 battalions of bicyclists, armored cars, and artillery, but this attack was unsuccessful. The remainder of the cavalry division was unable to open the pass and advanced on Assisi. 6 km. east of Assisi, Blue infantry and artillery were met and as the terrain made it impossible for the cavalry division to develop, no attack could be made. The Blue force was a reenforced regiment of the 22d Division, which had been

placed under control of the Blue corps commander early on the 24th.

At noon, the Red commander received the Army order for the 25th, which directed the Red Corps to hold the heights at Gubbio until the Red 17th Division, which began to arrive at noon of the 24th, had completed a defensive position on the heights northeast of Gubbio. During the night August

Lage am 22./8. mittags.



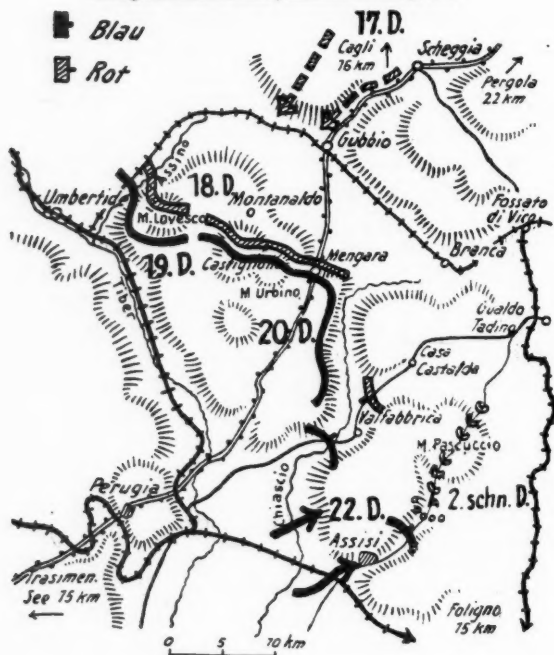
Situation at noon, August 22

Sketch No. 2

24-25, the Red 18th Division withdrew to a position 3 km. in rear, leaving outpost troops at their present position. The cavalry division was to make a feint in order to deceive the Blues and to make it easier for the Red 18th Division to become disengaged, and later to protect the flank from a position near Branca.

The Blue corps attacked at 5:00 AM, August 25th; it kept in close contact with the Reds. Red counterattacked with 2 Black Shirt battalions and one bicyclist battalion. The latter battalion was able to advance into the Blue artillery area, but the Black Shirts of the Blues drove it back. The cavalry division withdrew towards Branca. It placed 3 bicyclist battalions in the gap between the 18th Division and was forced later to increase this force by half of one cavalry regi-

Lage am 24./8. mittags.



Situation at noon, August 24

Sketch No. 3

ment and a battery of artillery. When the mass of the cavalry division reached Gualdo Tadino, it received a surprise attack by Blue bicyclists, which had marched over Foligno. At noon the Blue 22d Division had taken Casa Castalda, the 20th

Division had reached the valley at Mengara and, the 19th Division was in possession of Montanaldo. The maneuver was then called off.

The situations for this maneuver were clear, simple, and warlike. It was not a customary maneuver in which one side, being on the defensive, passive or active, expected the attack of the other side. Leaders and troops had to make many important decisions. We wish to mention the decision of the Red commander, when he sent all mobile artillery forward to the heights southwest of Gubbio on the first day of the maneuver, and to make a flank attack with the cavalry division against the 20th Division, and the dispositions taken by the Blue division to protect its flank. The situation might have become very interesting indeed, had the cavalry division been able to reach the valley of Assini and attacked the Blues in flank. The reason why some divisions advanced and attacked with excessive frontages, is due to the fact that the terrain had few roads and was well cut up. The value of the bicyclist regiments was brought out by their untiring actions. Reconnaissance, mobile reserve in rear of one flank, closing of passes and pursuit were handled effectively by those fast bicyclists. Long tiring marches were demanded of all troops and they were well executed.

Special arrangements had to be made for the supply of water, which was rather limited in this mountainous terrain.

On August 26th, a war strength battalion of the 22d Division, which had not participated in the maneuver, with the assistance of several light and heavy batteries, demonstrated combat firing with live ammunition, demonstrating especially the principle of fire and movement.

The maneuver was a success in all respects and many lessons were learned.

ARTILLERY SUPPORT OF AN INFANTRY ATTACK WITH TANKS

["Appui par l'artillerie d'une attaque d'infanterie avec chars." By Colonel Buchalet. *Revue d'Artillerie*, September 1933.]

Abstracted by Major V. Meyer

Our regulations are very meager in details on the subject of artillery employment in an attack with tanks and the officers carrying out the fires sometimes appear quite put

out when it becomes a question of giving fire directions in cases of this sort. At the most, the General Instructions on Firing refer to an attack with tanks in reference to using smoke shells to blind hostile observation posts or to stretch a fire curtain in front of the attack.

This subject is worth considering and we may well ask ourselves how the artillery may best perform its task in the infantry-tank-artillery trio.

First of all, let us not be hypnotized by the term "fires of direct support and protective fires" which are not very dissimilar in idea, especially when fire of direct support consists of successive concentrations. Hence comes the idea of asking ourselves what our task is and of choosing the most appropriate means to attain the desired ends, taking into consideration the matériel available and the present possibilities of tanks.

Let us allow, first of all, that tanks working in intimate liaison with the attacking infantry, will neutralize (or better destroy) within a radius of some 300 meters enemy infantry weapons which are opposed to our infantry. Within the same radius, they will themselves attack infantry antitank weapons and guns. As a result of this, it would seem that the tanks have missions formerly devolving upon the artillery in direct support. From this it would seem that the addition of tanks to the infantry should allow the command to effect a real saving in artillery. Practically, this saving is likely to be considerably less than was hoped for.

Contrary to the experience of 1918, the tank in the future will be opposed by powerful antitank weapons capable of acting at distances of 900 to 1000 meters and against which the tank will be powerless. Where then, if not from the artillery, can it obtain its protection? On the other hand, the allotment in tanks will not always permit of properly supporting the infantry over its entire front; such, for example, would be the case where an infantry regiment having available two tank companies, attacks with two battalions in the first echelon on a front totaling more than 1,200 meters. Under these conditions, the artillery will have to carry out, at least partially, the close combat missions in support of the infantry.

But, in general, the artillery will have to insure the protection for the tanks in a zone about 500 to 600 meters beyond

the 300 meter radius within which tanks can furnish their own protection. This we will call the close-in protection of tanks: it will fall naturally to the artillery of direct support. Beyond this close-in protection, the tanks must have protection against the action of distant batteries which have good observation posts well forward and which have wide fields of fire; this distant protection will logically fall to the division artillery in general support, reinforced if need be by the fires of the corps artillery, which are superimposed thereon.

We have said that the artillery in direct support will be given the mission of close-in protection of the tanks; that is to say, charged with their protection to a depth of 500 to 600 meters beyond the 300 meter radius. This mission exactly corresponds to that which the artillery firing regulations assigns to area searching fires (*feu de ratissage*), which state in principle that they deepen the rolling barrage beyond the zone of dispersion of the barrage projectiles (the rolling barrage being replaced in this particular case by the fire of tanks).

These area searching fires (*feu de ratissage*) are executed in principle with time fuze projectiles.

They will be preferably fired with shrapnel, which presents the double advantage of giving greater effect on enemy personnel in the open and of being ineffective if its bursts strike the armor of our own tanks which are moving ahead of the infantry. The importance of this last advantage should not be exaggerated, however, because our supported infantry will follow the tanks very closely in order to advance without too many difficulties. But it may happen, as in the case where there are machine guns to be reduced, that it will be desirable for individual tanks to make rapid bounds; in such case, they will not hesitate to pass through the rear part of the area which is being covered by our shrapnel fire. But whether the artillery fires the area searching fires (*feu de ratissage*) with shrapnel or high explosive, it will be able to cover a front of 200 meters per battery; in other words, with one battalion it can support the attack of one battalion of infantry on a 600-meter front, while in an attack without tanks it will have to use at least two battalions: a welcome economy for the artillery in working out its plan.

How will these fires of close-in protection for tanks be executed?

As for the area searching fires (*feu de ratissage*), it will be a matter of sweeping alternately backwards and forwards the 500 to 600 meter zone located 300 meters ahead of the tanks.

Wherever possible, the fires will be executed by direct observation as is done for the supporting fires in attacks without tanks. If the terrain or atmospheric conditions forbid, the support will be made by schedule despite all the well-known difficulties inherent in this kind of fire; it will be the concern of the commander of the support groupment to so organize his liaison that the artillery speeds up or slows down the rhythm of its area searching fires on call of the infantry; the problem becomes the same as that of an attack without tanks.

It should be understood that we have just set forth a framework in which artillery support will be effected; in each concrete case, the fires will have to be altered according to the maneuver idea of the infantry commander, the terrain, and enemy information; but it should never be forgotten that economy of fire is often paid for very dearly on the battlefield. In the present case, the great danger is the hostile antitank weapons which do not show themselves until the last moment and then with great effect. It will be better to forestall, as far as possible, the intervention of these weapons by systematically covering all the terrain with projectiles, the density being particularly great on the points where we can expect from the situation that the enemy will have placed his antitank weapons. Finally, we must take count of the fact that the enemy will be able to install powerful weapons sheltered in compartments of terrain where the dead angle forbids our observation, and under conditions which will permit of their intervention at a sufficiently great distance. As a result, tank attacks must be made over a wide front and must not degenerate into local uncoordinated attacks. Moreover, this necessity results very well from a consideration of other factors and it devolves on the commander to take the necessary steps to effect this.

The artillery executive (the groupment commander in the case) will scarcely be able to intervene with full initiative

in contingent zones, but he must not tie himself to his own little sector. His observation should include neighboring sectors so that he can obtain in good season, the help of neighboring groupments, and reciprocally can intervene with the artillery under his own command to help the neighboring groupments when the need arises.

Finally, there will be cases where the slopes to be passed over by the attack cannot be effectively covered by the area searching fires (*tirs de ratissage*) of the 75's. In accordance with the instructions in the *New Firing Regulations*, the 155 Howitzers, with a greater factor of safety, will be used to supplement the 75's when they are ineffectual. Each battery should have a 200-meter front, which is neither an economy of guns nor ammunition, since at the normal rate of fire four 155 Howitzers fire 3 rounds (each of 45 kilograms) per minute, as against 16 rounds (7 kilograms) of the 75's at the rapid rate of fire.

The use of the 155 Howitzer in place of a light howitzer is necessary in certain cases, but it is a makeshift.

ESSAYS ON THE INFANTRY. THE DIRECTION OF ITS EVOLUTION

["Essais sur l'infanterie; le sens d'une évolution." By Lieutenant-colonel Delmas. *Revue d'Infanterie*, April 1933.]

Abstracted by Major R. C. Smith

"Will the Infantry play an important part in the next war? Why maintain such large ground forces? Why build such costly and useless fortifications when the next war will be fought in the air and by machines?" These are the questions considered by Colonel Delmas, an officer of wide war experience, an author of repute, and a student of the psychology of the soldier.

He treats his subject by reviewing first the situation of 1914, then comparing it with that of 1933 and indicating the direction of progress and the trend of development of the infantry of the future.

I—THE PAST. THE INFANTRY OF 1914

The soldier.—A young man who spent the formative years of his life in the life of the barracks. He entered a beardless boy and came out a matured man, with strong mus-

cles, developed body, self-confident, and disciplined. His older brother, the reservist, was of the same stuff and settled quickly into his place.

The leaders.—The infantry officer was generally of the middle classes and had chosen his profession in something the same spirit that leads some men into clerical orders. He was satisfied with a modest living, without political ambition, and in general, enjoyed the confidence and affection of his men. He educated the bodies and the souls of his soldiers and had become a remarkable trainer of men.

The doctrine and methods of fighting.—The doctrine that was developed between 1870 and 1914 failed to keep touch with the realities of human nature and of matériel. The infantry built a splendid but inexact picture of this duel between moral force and the power of destruction of new weapons. Obsessed by the fear of inaction, a false premise was established of the absolute character of movement and maneuver. False conclusions were drawn from the premises. The precept deduced and announced as the invariable rule was: Attack, attack always and everywhere in order to impose your will on the adversary; victory is but a question of moral superiority. This precept was carried to its logical conclusion and caused a scorn of the importance of fire power and a neglect to profit by the protection to be had from organization of the ground.

The result of this doctrine led to an impetuous advance in all initial combats and, of course, to heavy losses. It is a tribute to the high morale of the French infantryman that he withstood these heavy losses and continued the struggle while he was forced by the rude shocks to adapt his action to the realities of the situation.

Armament.—The rifle and the machine gun were satisfactory weapons and the French infantry was probably as well armed as the German. The use of weapons left something to be desired. The French gave less attention to individual training with the rifle; the losses by enemy sharpshooters in the first battles are evidence of this better training.

The German doctrine on the use of machine guns was better developed. Whereas the French attached two guns to each battalion, the Germans kept them under regimental control and used them often for massed fire. Principal uses by the French were either to throw the automatic weapons

into the front line for short bursts of fire, or else to hold them out initially for use in an emergency.

II—THE PRESENT INFANTRY IN FACE OF THE PROBLEMS OF TOMORROW

The soldier.—The present day soldier has a shorter period of training and he must be instructed in a wider variety of duties. Sometimes he seems to be somewhat cocky and fresh, but the author feels that he is fundamentally as sound as his predecessor of twenty years ago.

The leaders.—A considerable number of company officers have had war experience. If they have lost the dash of youth, they have the assurance of men who know how they act under fire. A fine group of senior officers has been developed; they are experienced and capable. The average battalion commander is about 50 years old.

There is a tendency in the French Army, according to the author, to load down the battalion commanders with administrative details. They are found intimately concerned with all details of schools for officers, for non-commissioned officers, for the smallest units; they are in class-rooms, kitchens, and stables. The author feels that no matter how perfect or well established any given authority may be, it becomes shop-worn when contacts with it are too frequent and too prolonged. A battalion commander should be an accomplished soldier for control; a horseman and a sportsman to maintain his physical vigor; a man of wide reading, broad culture, and sound convictions; a man of the world to uphold the traditions of good breeding and camaraderie that give force and charm to military circles: all these qualities require a long apprenticeship, a constant training, wide reading, time for meditation—in other words a certain amount of leisure that cannot be had when officers become too immersed in routine.

The evil effect of too intimate control of all details of military life by the superior commanders is felt in the stunting of the development of their subordinates.

The doctrine and methods of fighting.—The great lesson drawn from the war by the infantry was the basic importance of fire. The conviction is definite that all capability of resistance or of maneuver depends on fire power—enemy fire that

must be overcome, friendly fire that must master the adversary.

The defensive power of infantry, when adapted to the ground, is considered satisfactory; but can it carry out its maneuver with *speed* and *precision* on the offensive? Perhaps on narrow fronts, but the answer is less certain when it comes to fighting of more extended character. The advance is limited by the necessity of waiting for the artillery to come up, to bounds of 3000 to 4000 yards, at a rate of about $1\frac{1}{4}$ miles per hour (2000 meters). This slow advance exposes the advancing infantry to surprise; a more rapid rate is needed.

We see many methods suggested, some sound, some highly theoretical. Some persons favor infiltration and thinning out the lines to such a degree that all cohesion is lost. Certain critics judge the excellence of all maneuvers by the invisibility of the advancing troops without regard to the limits of time and space. They overlook the object, which is to win the victory, at the cheapest price of course, but all the same to win it. Success demands an advance that is echeloned in depth and highly flexible, as invincible as possible, but one that has cohesion.

The organic cell of infantry action is not the individual soldier but the squad, controlled by a leader, equipped with an automatic weapon, its action centering on this arm. The effective basic unit is not the squad but the platoon, led by an officer and combining powers of fire and maneuver. This unit, the platoon, can be controlled by voice, by signal, by a whistle—in other words by the direct impulse of the leader. It must be fought as a unit if command is to be effective and unity of action maintained. Any system that spreads out a platoon so greatly that it gets beyond the leader's direct control will not be effective.

The author deprecates a tendency to establish the "base of fire" too far in rear of the line of combat. Indirect fire has its place and should be used when suitable, but for close protection of advancing troops, much fire by supporting weapons will have to be direct. The desire to retain centralized control over the infantry supporting weapons should not be allowed to hold them back from advancing rapidly to new positions.

The armament of today and the needed supplements.—The radius of action of the infantry in most compartments of terrain will be from 2200 to 3300 yards. It must be ready to take under fire, any resistance that may show up within this range. The present 37-mm. gun and mortar are not very effective at the outer limits of this zone. A weapon is needed to supplement their action. There is also a zone beyond the range of rifle grenades, about 200 yards, and the inside limit of motor range, say 400 yards, that calls for a new weapon of high-angle fire.

The author believes an infantry howitzer can be developed. It should have a range up to 4000 yards, be self-propelled and motor-driven, lightly armored, low hung. This should be a regimental weapon and could be grouped with an antitank gun unit. A regimental company of heavy machine guns, probably 50-cal., is desirable.

Armored carriers for infantry are a thing of the not-distant future. A most pressing need of the moment, however, is a means for ammunition supply, especially as the base of fire is advanced. The answer is probably a lightly-armored vehicle that can move rapidly over all sorts of terrain. Such a vehicle could also serve for liaison and reconnaissance.

The trend is toward greater and sustained fire power, greater tactical mobility, with sufficient protection by armor to permit the infantry to exert its full combat power.

SYSTEM OF SUPPLY

["Nachschub." By Generalmajor Soldan. Wissen und Wehr, May 1933.]

Abstracted by Captain F. During

LINES OF COMMUNICATION

Lines of communication are a necessary evil; an evil, because they restrict operations; necessary, because no operation can do without them. They not only supply the army, but they take away from it, anything that is not essential in battle. The line of communications ends with the troops and begins at home. The following exercise a decisive influence on the lines of communication:

(1) The size of the forces, on which is dependent the degree of the lines of communication.

(2) The distance between the zone of the interior and the troops.

(3) The capabilities of existing and added means of transportation.

(4) The security for the lines of communication.

The above reasons are so closely interwoven with each other, that they cannot be discussed separately.

Small detachments can subsist themselves for a short time, and forces of small sizes are not so dependent on the lines of communication as are large armies. The larger the size of the troops employed, the more difficult the handling of the lines of communication. The longer the lines of communication, the greater are the chances of friction. The means of existing transportation are never sufficient and must always be increased in order to be able to transport the large supply requirements speedily. The flanks of the lines of communication must always be protected, which means the loss of effective rifles from the front lines. This proves that the operations at the front are dependent on the lines of communication and also proves the necessity for them. Many planned operations on a large scale have to be curtailed quite a bit at times, due to insufficient personnel and insufficient means of transportation for the lines of communication.

HISTORICAL EXAMPLES

1. Napoleon's defeat in 1812 in Russia was not due to sickness alone, but also due to the fact that his lines of communication were too long.

2. When the German forces were in front of Paris (in the War of 1870-1871), the deep right flank was covered by the First Army and the left flank by the Second Army and the VII and XIV Army Corps. These two, in conjunction with the II Army Corps, saved the lines of communication from an interference by Bourbakis.

3. In the beginning of September 1914, the Third Army was about 150 km. from its railhead. The transportation available at that time was mostly animal-drawn, with a few motor columns. This shortage of transportation was the reason that the system of supply nearly fell down.

4. The Eighth Army, in the fall of 1914 in East Prussia, was forced to cease its operation against *Rennenkampf* in

order to protect its lines of communication, which were threatened by Sassanow.

5. The Ninth Army, in the fall of 1914 in its withdrawal from Ivangorod to Upper Silesia, left devastation in its rear in order to break down the Russian pursuit, due to the length of the lines of communication which Russia had to establish.

6. The Serbians and the neutral sabotage of Roumania came close to disrupting completely the long lines of communication from Turkey to Germany, in the fall of 1915. With the assistance of Bulgaria the road to Constantinople was not only opened, but it secured the lines of communication from Turkey to Germany.

7. Due to bad roads and railroads, and to a lack of transportation, only one German Division could participate in the fights at the Dobrudscha in the fall of 1915.

8. The submarine blockade against England was an attack against their lines of communication, only in a larger measure.

THE ORGANIZATION OF THE LINES OF COMMUNICATION

The organization of the lines of communication is based on the experiences of the World War, more developed and made simpler. The staff of the Quartermaster at Army Headquarters handles the entire system of supplies. They deal directly both with the zone of the interior and with the divisions.

The mission of administration and security of the occupied area is not a function of the Army Quartermaster. For this we have other organizations, whose mission is the military occupation and security of the rear area.

The depth of and the installations along the lines of communication is not based on definite distances.

To locate the divisional establishments a certain number of kilometers in the rear of the front lines, and a certain number of kilometers in rear of the installations of the corps and then the army, etc., is a senseless rule. The location of all installations belonging to the system of supply depends on the location of the units, on the terrain, on the capabilities to erect the installations, and on the mission of each division, corps, or army and has to be determined from time to time, depending on the situation.

THE ARMY QUARTERMASTER

The location of the office of the army quartermaster should be at the operations office in order that he will be acquainted at all times with the situation.

The quartermaster should be informed early of a contemplated tactical operation. It takes longer to move ammunition and supplies from the rear to the front than it does to move troops. In order to have the system of supply functioning properly at the time when the tactical operation is to commence, it is necessary to have the supply system begin preparations at an early date.

Therefore, as soon as it is contemplated to start a tactical operation, the quartermaster must be notified at once, in order to determine whether he is able to do what tactics and strategy demand. In case he can do it, he must be notified at once when the decision is made, to have the operation take place. The quartermaster first has to figure what is needed for this operation and must then prepare his plan to get the supplies moved forward. The lines of communication therefore become a question of supply requirements and traffic.

THE STAFF OF THE QUARTERMASTER

The staff should consist of young officers who are full of enthusiasm and who don't mind working hard without getting much credit. Each member of the staff must be an independent wheel in the works of a great clock working for the good of the whole.

To use a set rule in a system of supply is as much an error as it is in troop leading. Each staff officer must get acquainted with the capabilities and limitations of the means on hand in order to utilize them to the best possible advantage.

ADMINISTRATIVE ORDER

The quartermaster issues an administrative order, in which he announces to the troops the time when the supplies can be expected, the means by which they arrive, and the quantity which the troops will receive. In other words, an administrative order should tell the troops not more and not less than they should know about supplies. If only es-

sential items are given in the administrative order, the danger that the order may not be read will be eliminated.

TERMINOLOGY

In order to simplify matters and make the troops understand the order, only supply terminology for installations, etc., should be used.

SECURITY

That the security for the lines of communication is a necessity was proven in the late war. Sometimes enemy cavalry, but mostly enemy aviation, threatened the lines of communication, especially by bombing attacks. To camouflage marching troops, supplies, and depots is very effective against enemy bombing, as is a system of alarm along the line of communication. The protection of the flanks in rear areas becomes an important factor. In this time of motorization we can expect fast detachments in armored cars and fast tanks to break through and attack lines of communication in flank and rear. Therefore, the lines of communication must be prepared to defend themselves, not alone with anti-aircraft weapons, but also passively by the use of mines, etc.

RAILROADS

The most important means of carrying supplies is the railroad. Even though in this age where trucks have replaced the railroads in transportation of supplies, we still have to use the railroad in carrying the larger amount of supplies necessary for the front. The wear and tear on the rails in spite of numerous and frequent trains is nil. We know that the best motor roads in time of war, after several days of uninterrupted traffic of truck columns will deteriorate. We see that the railroads cannot be replaced by trucks. In order to keep the railroads going, we cannot demand the impossible; otherwise we find the most important means of transportation at a standstill.

The flow of supplies coming from the zone of interior runs through the different depots toward the troops. At a regulating station a re-distribution of supplies is made for the different divisions and the supplies are then forwarded to their respective railheads.

It is very desirable to have the railroad go as near to the front as possible, in order to make an issue of supplies directly to the troops at the railhead. This is not so important now, however, as it was at the beginning of the war. The motorized trains allow a quick issue of supplies to the troops after the motorized trains have picked up the supplies at the railheads.

We have various solutions to the question of how many and what kind of railheads we should have. One solution gives one railhead to each corps or division, while another solution assigns railheads according to the kinds of supply it serves. Both solutions have advantages, but nevertheless they are not ideal solutions.

Generally speaking, the position warfare has spoiled us in the use of railroads. In the war of movement we will have to be satisfied with one one-track railroad per army.

SUPPLY TRAINS

We now have motorized trains for the transportation of troops and all kinds of supplies and ammunition. Each column has a capacity from thirty to sixty tons. Animal-drawn supply trains are usually turned over to divisions, where the distance to be covered is shorter and where, on account of the proximity to the battlefields, roads are not adaptable for motorized columns. The mass of the motorized trains are pooled by the corps, in order to bridge the distance from the railheads to the divisions.

The increasing motorization of troops demand that division should have more and more motorized trains. While this means a shorter road space and fewer vehicles, it also means an increase in depth of division rear areas. We must also consider the increase of supplies such as oil, gas, etc.

A smooth functioning of the truck columns can only be accomplished when we have good communication and traffic control. The leader of the column must frequently inform the quartermaster of his location, tonnage, and the condition of his trucks. A frequent inspection of the columns is very essential so that headquarters knows at all times the carrying capacity and the conditions of the trucks.

When a supply column arrives at its destination, it must be met by work troops who unload the trucks. This gives

the personnel of the column a chance for rest and allows them to check their motors. It is absolutely imperative that we include in the movement plan for the columns, whether animal-drawn or motorized, days for checking and repairing of motors and equipment.

In order to keep the roads in good repair at all times, engineers have to be detailed to repair at once any damage done to the road.

AMMUNITION

At the beginning of the late war, we calculated the replacement of ammunition in complete ammunition trains of different calibers and in number of shots. It was proven, however, that the ammunition requirements varied at different places. Entire ammunition trains were satisfactory only as far as the army depots were concerned. We now fill a box car with 15 tons and the total weight of the train must correspond with the minimum carrying capacity of a motorized column. This way we can arrange ammunition trains carrying the different calibers needed in a division.

Number of shots and calibers does not give the higher command a picture of the munition situation. The higher command must know the amount of ammunition on hand by corps and armies in days. We use a day of fire, which means the use of ammunition for each weapon per day. This gives the higher command a complete picture of the munition situation. A day of fire has been calculated from the average number of shots fired per day during the war of movement in 1914. We must remember, however, that this day of fire is only a measure to be used when figuring ammunition demands; it does not mean that the troops have to fire that much per day, or that they cannot fire more, if necessary.

Troops within the division, to include the field trains of the division, carry two days of fire with them. A third day of fire is at the disposal of the corps commander and carried either as rolling stock on trucks or on railroad cars or is dumped at a munition dump. A fourth day of fire is under control of the army commander and is carried in complete munition trains toward the front and gradually comes then under control of the corps commander and is replaced by the zone of the interior.

This way we avoid an unnecessary accumulation of ammunition near the front, which might be needed at another point. To shift ammunition from one place to another, parallel to the front, is a very difficult undertaking. It is much easier to have the ammunition come from the rear to the front. Ammunition should be echeloned in depth the same as reserves are echeloned in depth.

SUBSISTENCE

The simplest way to subsist the troops would be to have a supply officer buy everything locally. As this cannot be done at all times, the army has to supply the troops.

The depots in the zone of the interior buy all supplies. From here they go to army depots, where daily trains are made up. Daily trains are classified as oats, flour, and mixed subsistence-trains. They are sent to railheads, where the trains are unloaded and from where field trains take the supplies to the troops.

The field bakeries formerly belonged to the corps; this placed them too far to the rear with the disadvantage that bread was often late in coming, and in bad condition when it did arrive. It also took too many trucks to carry bread forward—trucks which were needed somewhere else. Therefore each division has now its own motorized field bakery. Animal-drawn field bakeries cannot follow fast enough and bread cannot be made while the bakery is in transit.

It is customary to assign to armies and divisions, butcher detachments. Animals are sent to them by trains or marching, they are killed, and the meat is sent by wagon to distributing points and from there taken to the kitchens. This system has many disadvantages. Animals lose weight when shipped by train or by marching. Meat is only tasteful when it is properly hung.

Especially in a war of movement, butcher detachments never remain at a place long enough to have the meat made tasty by proper hanging.

The newly developed refrigerator cars and trucks show us a new way. The butcher detachments have been taken away from armies and divisions and are used in the zone of the interior. The animals are killed here, and the meat is properly taken care of. The loss of weight by animals as

mentioned before is done away with. The meat is hung in the refrigerator cars or trucks and delivered in good condition to the troops.

The cavalry division formerly was forced to subsist locally, or to have the corps assist it. Supplies could never be obtained in sufficient quantities locally and to have the corps assist the cavalry division did not prove satisfactory. The cavalry division is now organized the same as an infantry division, which makes it more mobile and independent. On account of the greater distances which a cavalry division is able to march, the vehicles must have a 4-line team or must be motorized.

MEDICAL SERVICE

The principle of having the army and division held responsible for the supply and evacuation is a correct one.

The medical establishments must be mobile, in order to have the troops go into the next fight with fresh and efficient medical personnel and hospitals. The question arises here, how many wounded must be evacuated, how much room in ambulances is available for lying cases and for sitting cases, and how far it is to the next hospital? The transportation question is somewhat complicated on account of the difference in conditions of the wounded: lying, sitting, and walking cases; the different means of transportation, such as hospital trains, trains for sick, trains for contagious cases, motorized ambulances, animal-drawn ambulances, etc.

Modern armies even consider evacuation by airplane. While at present a large number of wounded cannot be evacuated by plane, this system is ideal for seriously wounded and otherwise non-evacuable cases, as it protects the wounded from the discomfort of a long ride in an ambulance.

In the rear area we find hospitals, where wounded are kept, which cannot be transported to hospitals in the zone of the interior.

Aside from the regular system of evacuation we must consider the irregular evacuation of wounded, who, without going through the aid stations, etc., go to the rear by themselves. A thoughtfully prepared plan for evacuation will eliminate this.

The establishment of collecting stations at railheads or other prominent places at certain distances from the front will serve as a straggler line, where the wounded are picked up and cared for and either returned to the front or sent to a hospital.

Preventative hygiene is very important. It is not alone important to detect contagious diseases and epidemics and cure them, but equally important to inspect and test the food for the troops and to see that the troops get plenty and good water.

VETERINARY SERVICE

The division veterinary service establishes motorized march collecting stations (1 truck and 1 motorized animal ambulance) under supervision of a veterinarian.

The division veterinary hospital follows the division on the march. It must be close enough to the division that it can be put up in case a fight is imminent. Cities are not suitable for veterinary hospitals. Small villages, where stables, barns, etc., can be found, are best suited for the location of veterinary hospitals.

It is advisable to use railroads for the evacuation of animals from hospitals, but this is not always possible, and therefore we have to depend on the motor for evacuation.

The army controls the animal evacuation columns. To divide the ambulances among the divisions would be a dispersion of force.

The veterinarian has to watch especially the conditions of the feet and whether the animals are shod properly. Large cavalry units have to walk their horses, as replacements of shoes are sometimes lacking. A replacement must always be anticipated. A monthly replacement of shoes (30,000) for a modern cavalry division weighs 30 tons.

ANIMAL REPLACEMENT

Every division has a small remount depot, which is filled from the army remount depot. The local replacement of animals is advisable only in a case of absolute necessity. Only the army is permitted to purchase animals locally. They are kept at army remount depots until it is ascertained that the animals are free from disease.

SUPPLY OF GAS

Gas is brought from the zone of the interior in tank rail-road cars. The motorized tank trucks receive their gas from the tank car and issue gas to truck columns. Staff cars, etc., receive their gas at mobile gas stations. A careful study has to be made to see how much gas is needed. A column of ten 3-ton trucks, for a 100 km. trip, needs between 600 and 700 liter gas. Modern armies need more and more gas.

REPLACEMENTS OF ARMS AND EQUIPMENT

When we speak of replacement of arms, etc., we not only mean replacement of complete weapons, but also replacements of parts. Parts which (based on experience) are needed in large quantities should be kept in depots in large quantities, and vice versa.

Replacement is made by army direct to division. Modern armies have depots which are classified according to arms or equipment (Infantry, Engineers, etc.). The stock kept in depots is figured in days of supply.

Depots are prepared to make repairs and have mobile repair shops, which are sent to the troops in order to make repairs there.

In conclusion we wish to emphasize that the discussion pertains only to the war of movement.

FAULTY CAVALRY EMPLOYMENT. BATTLE AT PILLON, 10 AUGUST 1914

["Unzweckmässige Kavallerieverwendung. Gefecht bei Pillon am 10. August 1914." Militär-Wochenblatt, 25 August 1933.]

Abstracted by Major A. Vollmer

I

The IV Independent Cavalry Corps (Lt.Gen. von Hollen, 3d and 6th Cavalry Divisions) received the mission of strategic reconnaissance in front of the Fourth and Fifth German Armies as well as the screening of their advance. But all attempts to extend the reconnaissance to the Meuse came to grief in the Loison Lake sector occupied by the French. For 10 August the 6th Cavalry Division* had Pillon as march

*Composition of 6th Cav. Div. (Lt.Gen. Count von Schmettow): 28th Cav. Brig. (20th and 21st Dragoons); 33d Cav. Brig. (9th and 13th Dragoons); 45th Cav. Brig. (13th Hussars, 13th Mounted Jägers); 5th Jäger Battalion with Cyclist Company; 6th MG Det. 8th Horse Artillery; special troops.

objective. At 9:00 AM it reached the Constantine farm at the crossroads northwest of Rouvrois whence it drove a weak French detachment. Pillon was reported as more heavily occupied. At Mangiennes there was enemy infantry and cavalry. Trenches were located on the heights west of Lake Loison. Enemy infantry and cavalry had been observed at Billy.

The advance guard (33d Cavalry Brigade, 6th Machine Gun Detachment, Cyclist Company—Commander Major General von Etzel) received orders to take Pillon. The cyclists and machine guns were sent forward on both sides of the road: Constantine—Pillon. The 13th Dragoons echeloned to the right and the 9th Dragoons to the left. At Chatillon a squadron of the 9th Dragoons was pushed forward on St. Laurent, where French cavalry had been reported. One battery took position on the heights northwest of Chatillon to support the attack. At 10:20 AM Pillon was taken. The advance guard pushed on through the village and went into a position of readiness on Hill 267 west of Pillon. The enemy, apparently only cavalry, had withdrawn into the Bois Brulé and to Mangiennes. Through personal reconnaissance and reports of patrols, Major General Etzel determined that about one or two companies of infantry were concealed in bushes about 800 meters east of the bend in the road: Pillon—Mangiennes; two others on the heights between Villers and the Bois Brulé. Trenches were located along the road: Mangiennes—Azannes. When the artillery fired on the bushes the enemy infantry and some cavalry withdrew to Mangiennes. The 6th Cavalry Division had secured an admirable observation point in Hill 267. It dominated the entire vicinity. General von Schmettow saw no advantage in taking Mangiennes today. He was convinced that he had to do with a strong enemy with artillery whom he would have to attack over unfavorable terrain. It was a very hot day; the men and horses were exhausted due to their exertions and loss of sleep. He decided to content himself with what had been accomplished and to rest the troops, and notified the Cavalry Corps Headquarters at Constantine, who were not in agreement with him. General von Hollen believed that the enemy consisted merely of French border guards without artillery and that it would be easy to break

through his defenses at Loison, which was essential to the reconnaissance.

At 12:30 PM Count Schmettow gave Major General von Etzel orders to take Mangiennes with the 33d Cavalry Brigade, 5th Jäger Battalion, and 2d and 3d Battalions, 8th Horse Artillery. General von Hofacker was to attack Billy with the 45th Cavalry Brigade, 6th Machine Gun Detachment, and 1st Battalion 8th Horse Artillery. The 28th Cavalry Brigade was to constitute the reserve of the division between the Bois St. Médard and the road: Pillon—Mangiennes.

At 1:45 PM the 5th Jäger Battalion developed for attack astride the road: Pillon—Mangiennes. In crossing Hill 267 it received a heavy artillery and machine-gun fire but continued to advance in good order. Since the Battalion Commander, Major von Müllenheim, knew that he had to do with an extended position, he put all four companies in the front line, the Machine Gun Company on the right wing. The attack across the bare slope was very difficult, especially since wide cornfields impeded the field of fire. Without being able to fire but suffering under the enemy artillery fire, the right wing went forward to 700 meters, the left to 1,000 meters from the enemy position. Luckily for the Jägers the French machine guns and infantry shot poorly, almost always too high.

In accord with the order for the attack the 1st Battalion 8th Horse Artillery (Captain Schmidt Wietersheim) had followed hard on the Jäger battalion and had advanced to the road to Mangiennes. Soon after crossing the hill it received infantry and machine-gun fire and was forced to go at the gallop into a partly concealed position south of the road. While unlimbering it lost two drivers and a number of horses. The Battalion Commander, Major Gerstenberg, had ridden forward and located his observation point in a roadside ditch about 50 meters to one side of the battery. The battery found promising targets but was soon covered by the fire of an enemy battery which we were unable to locate. In spite of constantly increasing casualties the Wietersheim battery continued the fire without interruption. When all officers were put out of action Major Gerstenberg sent von Sandrart to take command, but he too was killed

and one-year volunteer Danco assumed command. A direct hit on the battalion observation post killed the brave, beloved Major Gerstenberg, who fell with his scissors scope on top of his wounded adjutant. In answer to the last question, "Why does the battery cease firing?" there comes the advice after a pause: "Munitions exhausted. Personnel dead."

The 2d Battalion, 8th Horse Artillery (Captain Möller), from its concealed position was able to operate well against the enemy position without itself suffering casualties, yet unable to locate the enemy battery.

As the fire of the Wietersheim battery became weaker at about 3:00 PM, the enemy infantry began to advance for the attack, first on its left, then on its right wing. It managed to reach a point about 500 meters from the line of Jägers but then broke under our fire and withdrew to its original positions.

After 5:00 PM the enemy risked no further advances; the Jägers were also unable to advance due to enemy artillery fire.

A direct support by the 9th and 13th Dragoons was prevented by the advance of the enemy on St. Laurent.

At 4:00 PM, General von Etzel asked the Division Commander to make available the 28th Cavalry Brigade which was on the right wing of the division in the Grand Chânel woods. The request was granted. The brigade received the order to prolong the line of the attacking 5th Jäger Battalion. The Brigade Commander, Colonel von Selchow, had the 21st Dragoons and a squadron of the 20th Dragoons dismount to fight on foot in an advance south of Bois Brulé. Three squadrons of the 20th Dragoons remained as mounted reserve behind the right wing. The riflemen were taken under fire as they crossed the heights south of Bois Brulé by enemy artillery from St. Laurent and were unable to advance. Also, the 45th Cavalry Brigade directed on Billy had no success. At 5:00 PM the attack of Etzel's detachment had been brought to a halt. The casualties from the continuous enemy artillery fire piled up; the division was in danger of losing its combat power without having succeeded in any of its strategic missions. Thus Count Schmettow decided to break off the fight and withdrew the division across Lake Othain.

Casualties: 5th Jäger Battalion (dead, wounded, missing): 9 officers, 226 men, 3 machine guns; Wietersheim battery: 22 dead (including 4 officers), 37 wounded, 3 guns abandoned. The casualties in other units of the division are hardly worthy of notice—they totalled 30 men and some horses. Enemy casualties: 28 officers and over 900 men.

The morale was low—in consequence of the unsuccessful attack and the hasty withdrawal it seemed like a defeat. Only in the 5th Jäger Battalion, which had carried the brunt of the combat, was there, as reported, a feeling of victory. They had repelled strong enemy attacks and had forced the enemy in part into a rout. Their casualties were almost exclusively from artillery fire while the infantry and machine guns shot poorly. This gave them a feeling of superiority over the enemy. The morale was made worse in the cavalry regiments because their withdrawal was extended 12 km. back of their morning positions and they did not reach their destination until nightfall.

II

The activities of the cavalry divisions in front of the armies of the West Front did not correspond in any respect with the missions and training of independent cavalry as we had learned them from lectures, war games, training rides, and reconnaissance exercises. Those missions were first of all: (1) Strategic distant reconnaissance, and (2) Screening of the movements of our own armies. Then when the armies approach each other the cavalry divisions were to (1) threaten the enemy flank, (2) operate against his rearward lines of communication, (3) enter the combat with rifle and lance, (4) pursue. There were other missions as well, such as closing of gaps, own flank protection, covering withdrawals.

From the concentration area of the 6th Cavalry Division west of Diedenhofen to the girdle of forts at Verdun and to the Meuse was 40 to 50 km. by air line. No one could have seriously contended that the cavalry reconnaissance should have advanced beyond this. Thus it was limited to the area between the German border and the Meuse—too restricted to be called distant reconnaissance. If the enemy concentration would occur west of the Meuse one could count on strong frontier guards and cavalry divisions east of it, which

must first be ejected from the field. If the enemy concentrated east of the Meuse, as was more probable, the extent of reconnaissance would be still further cut down, for the enemy would then push strong covering detachments as far east as possible to gain room for undisturbed concentration. In no case was there hope of any success for the 6th Cavalry Division in its reconnaissance operations. In fact, until the beginning of the battle of Longwy, not a single patrol of the 6th Cavalry Division advanced into the Lake Loison sector behind which the enemy concentration was in progress. The French independent cavalry avoided mounted combat and effectively hindered German reconnaissance by the placing of fire weapons in villages, woods, and bridges and other defiles.

The results of reconnaissance were meager. The casualties suffered by reconnaissance units (patrols) were out of proportion to the results they secured. The only attempt of the 6th Cavalry Division to break through the barricade of Loison at Mangiennes was a failure. After this attempt there was no longer any talk of distant reconnaissance. The screening of our own armies was likewise unsuccessful, inasmuch as at the beginning of the war the French had air superiority. What they wanted to know they learned through their air men and through the superior system of espionage.

So far as concerns the later employment of the 6th Cavalry Division during and after the battle of Longwy, including the advance across the Meuse through the Argonne to Revigny on the Rhine-Marne Canal, as well as the withdrawal therefrom, we must admit (however difficult that is for us cavalrymen) that but few promising missions appeared for the division. In many orders it was stated that the cavalry was to "pursue the retreating enemy"; yet it always resulted that the pursuit soon came to an end when the energetic resistance of strong French rear guards gave the lie to any idea that was in fact a "flight." The troopers often had the depressed feeling that they were simply in the way of the infantry and artillery. They saw their sister services go from victory to victory, heard of irresistible assaults of the right wing, but they themselves never came to an effective participation in the combat.

When at the end of September we were transported to Belgium and in the "race for the sea" were able to engage in worth while cavalry combat, we asked ourselves what would have been the changed course of events, especially as pertains to the battle of the Marne, if G.H.Q., instead of employing the ten cavalry divisions of the West Army in front of the armies, had unified them on the extreme right wing as a cavalry army under a single leadership.* The reconnaissance in front of the armies could have been carried out just as well by the divisional cavalry. It could have carried out the other missions if reinforced by cyclists, machine guns, and artillery.

THE 10TH OF AUGUST

Since every attempt at reconnaissance had so far been checked in the Loison sector, it was undoubtedly necessary to break through the French barricades there. It was obvious, however, that the enemy would have been able to build up a considerable resistance there in the 9 days since mobilization. Accordingly the breakthrough forces should have been strong and include even part of the 3d Cavalry Division. That the 3d Cavalry Division remained in Longuyon while the 6th Cavalry Division was ordered to undertake the attack was disastrous.

Even the mere presence of the 3d Cavalry Division at Longuyon served to prevent the peculiarly timorous 9th Cavalry Division from entering the fight at Pillon. The 3d Cavalry Division was held at Longuyon due to the false report of an enemy advance from Longwy. The 3d Cavalry Division was to be brought up to the support of the 6th but at a time when it would be far too late. An advance through St. Laurent would have relieved the 6th Cavalry Division greatly and would probably have assured the success of the undertaking.

In fact, the 6th Cavalry Division at Mangiennes was in a wasps' nest. On the south the outpost positions of the 4th French Infantry Division were connected with those of the 8th Infantry Division whose fortified positions lay 10 km. to the rear. In Mangiennes the outposts crossed so

*See "Cavalry Concentrations," by Konrad Leppa; translated on page 41, RCML No. 45.

that at this place were troops of two different divisions. The decision of Count Schmettow to break off the combat and withdraw the division was inevitable as soon as the timely help of the 3d Cavalry Division could no longer be expected. After the Wietersheim battery went out of action the enemy had available at least five times the artillery that we had. Every German attack would break down in this enemy artillery fire in spite of the destruction of his infantry at Mangiennes.

The threat to the right flank and to the rearward lines of communication of the 6th Cavalry Division by the advance of an enemy detachment with artillery through St. Laurent, made it doubtful whether any further holding would enable us to withdraw without heavy casualties. It would have gone badly with the division if the French 9th Cavalry Division had been led more energetically, and, instead of being scared by the 3d Cavalry Division into a withdrawal to Jametz, it had operated in flank at Chatillon and had then energetically pursued the shattered 6th Cavalry Division. The French commander let slip the rare opportunity to gain laurels.

The 6th Cavalry Division—naturally without knowing it—had chosen the most unlucky time and place for its attack. On the day before, after a Jäger Battalion had been withdrawn therefrom, Mangiennes was weakly occupied by a part of the 91st Regiment. Artillery, as well, had to be brought up after a long march. The occupation by the 130th Infantry, arrangement of fire trenches, and emplacing of artillery did not occur until the morning of 10 August. If the division had first attacked Billy with its main body on the 10th of August and simply held the enemy at Mangiennes it would have run on to very slight resistance and could have forced the crossing of Loison without many casualties.

But the attack at Mangiennes had the result of exciting the enemy all along the line. This we see from the French reports. They considered it as the beginning of serious events. Everywhere the troops were put into "alarm readiness," outposts and reconnaissance units were alerted. With Pillon the seriousness of war came to the French troops east of the Meuse. The French infantry had lost around 1,000 men at Mangiennes. It had withdrawn "in disorder" into the woods west of Mangiennes—as the French report states. Prisoners

reported that an impression of defeat persisted. They stated that the guns abandoned by the 6th Cavalry Division were still on the field on the evening of 11 August.

This tactical success existed in contrast to the casualties of the 6th Cavalry Division and the impression of defeat in the first encounter with the enemy which persisted for some time. This last was deepened by the knowledge of the loss of 3 guns and some machine guns and by the continued withdrawal that night.

It would have been better to have kept the division on the front at Constantine, and not have withdrawn it until the next day, if at all. Then of course the 3d Division would have had to remain.

In fact, the enemy did not pursue, but wherever he had crossed the Loison he again withdrew. Until the enemy advance, which led to the battle at Longwy (21-25 August), the 6th Cavalry Division remained in the vicinity of Mercy le Haut in forced idleness, which in fact benefitted the tired horses but depressed the troops, who burned for mounted action.

Section 2

ORIGINAL MILITARY STUDIES

This section contains original contributions by graduates of the Command and General Staff School.

THE CONDUCT OF A HOLDING ATTACK

[Based on a Study of the Present Doctrines of the British, French, German, Japanese, and American Armies, and Appropriate Historical Examples.]

By Major J. Lawton Collins, Infantry

INTRODUCTION

a. Modern military thought seems to be in unanimous agreement that the principal missions of a holding attack usually are:

1. To fix the enemy in position and prevent the shifting of reserves to meet the decisive attack.

2. To attract to itself the maximum possible number of enemy reserves.(1)

b. There seems to be substantial agreement also that, in accordance with the principle of economy of force, the very minimum of combat strength should be allotted to the holding attack.(2)

c. When, however, we inquire *how* the attack is to be conducted to achieve these difficult missions with the minimum of force, we find some disagreement and few concrete suggestions. The object of this study is to discover *how* the holding attack may be conducted in order to accomplish its missions. Since combat has a unity, which cannot be broken down too far, it may be necessary to discuss certain features of the decisive attack, but it is hoped to focus attention on the actual *conduct* of the holding attack.

(1) Br FSR, 105; Foch, 357; Ger FSR, 4, 87, 93; Jap FSR, 5; Am FSR, 88

(2) Br FSR, 47; Foch, 153; Ger FSR, 107; Jap FSR, 60; AM FSR, 88

FOREIGN DOCTRINES BEARING ON THE SUBJECT

a. British doctrines concerning holding attacks:

1. British Field Service Regulations:

"Generally * * * the greater the fighting power and offensive spirit of the enemy, the more advisable it will be to engage him along his whole front. * * * The ultimate object, however, must be to concentrate sufficient force in one area for the delivery of a decisive blow."(3)

"While preparations for this (decisive) attack are being made and during the attack the enemy should be held to his ground on other parts of the front, and efforts should be made to force him to dissipate his reserves. Attacks of this nature must be carried out with vigor if they are to fulfill their purpose."(4)

"Make detailed plans for sustained and overwhelming covering fire throughout the attack on these portions of the front where the attack is to be pushed home, and for sufficient covering fire to neutralize the enemy on other portions of the front."(5)

2. British "Infantry Training," Vol. II:

"* * * the strictest economy of force has to be exercised on those portions of the front where it is not intended to press home the attack. These should be attacked with just sufficient fire power to prevent the enemy withdrawing troops, or fire, to reinforce the threatened sector (i.e., the area of the decisive attack). Smoke can often be usefully employed to leave the enemy in doubt as to the actual strength of the forces opposed to him."(6)

"The number of guns at the disposal of the commander will often be only sufficient for a concentration of fire on a portion of a front of attack. On this front the attacking troops must move as closely as possible under the protection of the artillery fire and by this means drive home the attack; but on other portions of the front of attack the absence or weakness of the artillery support must not deter the attacking troops from making every effort to advance and close with

(3) Br FSR, 47

(4) Br FSR, 105

(5) Br FSR, 128

(6) Br Inf Tr, 53-54

the enemy under the fire of their own weapons. * * * opportunities may frequently occur on other portions of the front for the infantry to get forward by a skilful use of the ground and its own weapons. It is only by the whole-hearted determination of junior infantry leaders to gain ground on every opportunity that the enemy can be prevented from strengthening the defense at the points where the attack is to be pressed home." (7)

3. Brigadier General Clery, formerly Commandant of the British Staff College, in his "Minor Tactics," a work which though somewhat out of date, still has much of value to offer the student, says:

"But two conditions here involved must be rigorously complied with: the superiority at the point of attack should be very decided; the defeat of the weakened part should be very carefully guarded against. This will be attained by employing at the decisive point every man not required elsewhere, and only so far engaging the remainder as not to endanger their getting seriously compromised.

"But the secondary attack must have all the appearance of reality if it is to effect its purpose. For it will only impose on the enemy in as much as he believes it to be genuine. If he finds himself attacked in force at one point and but feebly at another, he will quickly realize what has been attempted and withdraw part of his troops from the one to reinforce the other. But if from appearances at the outset he is likely to be attacked in force at different points, he will usually remain some time in uncertainty as to where the force of the blow is meant to fall. And as long as this uncertainty lasts he cannot denude parts of his line to reinforce others.

"But there are often secondary points in a battlefield whose possession becomes of extreme importance from the pivot they afford for prosecuting the attack, or, in case of need, for acting on the defensive. Such, for instance, were the villages of Vionville and Flavigny at the battle of Mars la Tour.

"The strength bestowed on the defense by the power of modern firearms is equally serviceable to that part of the attack employed for demonstration against the enemy's front. For were the latter to attempt a counter-strike while

(7) Br Inf Tr, 73-74

the main effort was being made against its flanks, the force opposed to it would still possess considerable power of resistance.

"* * * But this depth is not so necessary for that part of the force used elsewhere to simply retain the enemy opposed to it in his position. For as its business is rather to alarm than to press its attack to an issue, the greater the force it displays in the front line, the more effectively will it attain its object of *threatening*; and should the enemy venture on a counter-attack the front line cannot be too strong to oppose it." (8)

4. Liddell Hart has this to say about a purely infantry attack; it is believed to embody, however, the general British conception of one phase of the holding attack:

"Thus we see that the act of fixing can only be achieved by the combination of both fire and movement on the part of the forward body. There must be the oncoming threat of a forward spring in order fully to fix the enemy's attention. Fire alone, from the hastily-halting places of an attacker, will not deceive and absorb the attention of a defender who is behind carefully selected cover. If the enemy's attention is not *fixed* in the original direction, he can turn to face the maneuver blow which comes from a fresh direction. In this case the outflanking movement is no longer a maneuver, but becomes a second frontal attack." (9)

5. Finally, let us quote Col. J.F.C. Fuller:

"Concentration, from the point of view of battle, has for centuries been based on the maxim of 'superiority of *numbers* at the decisive point,' because numbers were the co-efficient of weapons, each man normally being a one-weapon mounting. As a general rule, this maxim no longer holds good, and in its place must be substituted 'superiority of weapons, means of protection, and movement.'" (10)

"The main ideas in battle are:

- (a) To distract, that is to bewilder the enemy
- (b) To fix, that is to deprive him of the power of movement
- (c) To maneuver * * *

(8) Clery, 189-191

(9) Hart, 38

(10) Ful (1), 265

(d) And to hit him unexpectedly, or in superior force, at the point selected." (11)

"These operations of holding and hitting will be considerably strengthened, if * * * a distracting operation is set on foot; that is a movement toward a point not selected for the decisive attack, but sufficiently threatening to compel the enemy to take serious notice of it. Such an operation will in most cases force him to draw upon his reserves * * *

"Though frontal attacks are no longer profitable as decisive attacks, there is no reason why they should not be made extremely profitable as holding operations. Should A and B face C and D, and should A attack C in order to compel D to come to his (C's) assistance, then if A hangs on like grim death to C and D, all B has got to do is to slip around one of their flanks and hit C and D on the back of their heads. Such is in fact the secret of successful battle." (12)

"In F.S.R we are told that * * * 'covering fire, to be effective, must be concentrated on those portions of the front where the attack is to be driven home.' In attacks of penetration I agree, but in outflanking movements I disagree, because in nine cases out of ten this concentration of fire will defeat surprise. In such cases the object of concentrated fire is to pin an enemy down so that he cannot reinforce the point at which the attack is to be driven home." (13)

b. French doctrines concerning holding attacks:

1. Provisional Instructions for the Tactical Employment of Large Units:

"This plan (of maneuver) indicates the results to be attained by the operation and lays down the broad lines of the maneuver. It fixes the first directions to be taken, the first positions to be occupied, or the first objective to be reached, and regulates, in consequence, the initial disposition of the troops.

"It is important that these dispositions should be flexible and capable of lending themselves to the changes that events will render necessary." (14)

- (11) Full (2), 8
- (12) Full (2), 36
- (13) Full (2), 89
- (14) TELU, 32

"By these measures the commander organizes an attack which will be carried out with all his available means in a direction in which success will give decisive results.

"Other attacks will take place along the front; they serve to complement and to support the principal attack of the army.

"From the point of view of execution, there is no distinction between these different attacks; they will be always pushed to a conclusion without regard to their alignment; they differ only in the strength of the forces used and the extent of front assigned to each. When the battle is prolonged, the army commander, for purposes of maneuver, may find it advisable to organize several important attacks, carried on successively, on different parts of the front." (15)

2. Foch goes into no details of the action of the forces assigned to the holding attack, but does devote considerable discussion to the action of the advance guard, which, reinforced if necessary, is apparently expected to definitely fix the enemy before the delivery of the decisive attack. In the following quotation, the term "the preparation" is taken by this investigator to mean the complete advance guard action. Even if Foch did not intend these ideas to apply specifically to the action of the holding attack during the main engagement, it is believed that they are so applicable, especially in a meeting engagement:

"Besides what has been pointed out, the preparation must *conceal* the direction and time of the decisive attack; it must cover its organization, which entails a new duty of protection.

"It must also hold the enemy to the situation previously observed, and forbid him to prepare some maneuver of his own. For that purpose it must immobilize him, making it materially impossible for him to assemble enough forces to successfully resist the decisive attack; it must therefore engage the enemy.

"For the fulfillment of its double duty, the preparation must attack the enemy wherever he shows himself, with the object of causing him serious losses, of depriving him of his means of action, of so threatening and paralyzing him as to prevent him moving any forces elsewhere. Its attitude must therefore be undoubtedly offensive.

(15) TELU, 60

"But it must also hold the enemy if he threatens. While acting, it must prepare facilities for successful defense.

"To conquer and to hold with increasing energy, such is its mission.

"The small proportion of troops at the disposal of the preparation over a generally extended front does not permit of even action along the whole line. The offensive is liable, for that reason, to become distributed; its aim is to win those points whose natural strength or commanding position assures easy conquest and future disposal of the spaces in between." (16)

3. Colonel Lemoine further develops the ideas of Foch; in discussing the enveloping attack—the holding element of which is the chief concern of this investigator—he says:

"If we wish to avoid this disadvantage (the attack of an enemy who is not fixed), we will be led to consider the maneuver in two phases: a first phase having as object the finding of the enemy and his immobilization when found; and a second phase consisting of bringing troops on his flank to envelop him.

"If the troops charged with the flank attack are relatively weak and if they act in close liaison with the frontal attack it results in a type of maneuver usually called an enveloping maneuver.

"The normal evolution of this maneuver comprises:

—an attack made by the main body of the forces with the object of finding and fixing the enemy;

—then the extending of a wing or of the two wings until we find the flank of the adversary;

—a turning in on this flank;

—and finally, exploitation of the crisis thus created.

"As types of this maneuver, we may take Wörth, St. Privat, Lule-Bourgas, Mukden.

"In order for this maneuver to be successful we must succeed in locating the wing of the enemy.

"If the enemy has reserves, he will generally use them to extend his front in proportion as we extend our own. It was this that was done on a large scale in 1914, at the time of the Race to the Sea. * * *

"Therefore, extending our front is not sufficient; we must prevent the enemy from extending his and in order to do

(16) Foch, 357

that we must succeed in making him engage his reserves."
(17)

"Whatever the procedure used, we may say that the success of the maneuver lies rather in the results obtained by the preparatory combat than in the intervention of the troops charged with the wing attack. These troops, in fact, are not, and cannot be, very strong; consequently the attack will give results only in so far as the first part of the combat shall have succeeded in creating a general situation favorable to the projected maneuver. * * *" (18)

"The enveloping movement is the habitual movement of small units when they run into an enemy holding a non-continuous front. In these little operations we sometimes note a tendency to economize too much on the direct attack and to demand the entire result from the virtues of the enveloping movement itself. This is forgetting that the envelopment is efficacious only on condition of being a combination of two directions. So, it is not sufficient to attempt to slip in, on the enemy's flank or rear, troops that are charged with the mission of solving the problem themselves alone; we must place the enemy in a real pair of pincers if we don't wish to leave him too much chance of parrying.

"From the nature of the enveloping movement and from the manner of conduct of the preparatory combat flow the dispositions preparatory to the engagement; the greater part of the troops oriented toward the enemy and having sufficient effectives to sustain the frontal combat; a quite strong reserve hidden behind the wing that is to make the enveloping movement and having enough troops to be able to determine the enemy wing and envelop it. * * *" (19)

4. Major R.K. Sutherland, Infantry, a student at the Ecole Supérieure de Guerre, 1928-30, has the following interesting statement in his report, concerning the front of attack:

"The zone given to a unit—a division for example—does not necessarily correspond to the unit's front of attack—that being fixed by the enemy defense, the terrain, and the means at hand, particularly the artillery strength. A simultaneous attack on the entire front is realized when possible, but it is very often considered to be impossible, and thus the

(17) Lem, 254

(18) Lem, 255

(19) Lem, 256-7

attack is made on a limited front or executed by successive advances on parts of the front, each being supported by the fires considered necessary to cover the attack. It is considered that a division with its organic artillery (9 batteries of 75's and 6 batteries of 155's) can attack an organized position on only 1000 yards of front, and when it receives a corps order to attack it will, unless reinforced, limit its attack to that front. In this connection there is a very great difference between the French and American practice, for at Leavenworth a division always attacked on the front assigned, the depth of the attacking force being varied according to the maneuver, while here, certain parts of the front are merely covered by fire, there being no attempt made to send infantry forward. As one colonel, who has had an exceptionally distinguished record, stated the case, he had seen too many thousands of men killed unnecessarily ever to order them forward over terrain where he knew they could not advance. At Leavenworth the policy was to order the holding attack forward, although it was not expected to succeed, while here it is said the commander has not the right to order his men out under such circumstances and in consequence the front is covered by fire only. In discussing this question the instructors recognize the value of the holding attack but they do not go to the length we do to realize it. The most extreme case I have seen here occurred in a terrain exercise where on a division front of three kilometers, the attack was made by a battalion on each flank, each battalion being in column of companies, while the rest of the front was covered by fire without movement until the attainment of the first objective by the attacking elements." (20)

c. German doctrines concerning holding attacks:

1. German Field Service Regulations:

"The main force is always employed at the decisive point; this requires that the troops be distributed from the beginning with this object in mind. Thus every attack is given its *center of gravity* which is especially emphasized in orders.

(20) *Suth*, 5-6

"If during a battle, success is attained at a point other than where it was intended, it is fully exploited at that point."
(21)

"Prior to the beginning of the envelopment, however, the hostile front is attacked, in order to prevent the enemy from shifting his forces. * * *

"In this case (attack of a position protected on both flanks, or where for other reasons a frontal attack is executed), the main problem for the commander of the troops consists in determining the weakest point in the hostile front against which to direct the main blow of the attack. An equal distribution of forces along the entire front is rarely correct; the infantry is concentrated against one or more points of penetration, while only minor forces are employed against other parts of the front, or while certain sectors of the hostile front are wholly excluded from the attack. The distribution of the artillery is likewise based on this consideration; possibilities of flanking fire are exploited. 'Concentration of superior fire' is not synonymous with 'concentration of positions'." (22)

2. Colonel Balck in his "Tactics":

"* * * The troops holding the enemy in front (secondary attack) must, therefore, hold him in such a manner as to keep him in ignorance about the true point of attack, must so engage his attention that he will finally place the bulk of his force into the frontal attack. If this does not occur, the opponent will soon distinguish sham from reality and will not oppose a weak, inactive containing force with more troops than are absolutely necessary. In this connection, compare the conduct of the First Army at Königgrätz and of the Prussian V Army Corps at Wörth with the vascillating action of the Russian Third and First Armies at Sandepu (Taktik, V, p. 42). So long as the enemy is not firmly held in front, he will be able to evade an envelopment by withdrawing. The combats of the Boers in the Orange Free State furnish numerous examples of this fact. The Austrian Regulations have very properly coined the term 'Attack on two fronts,' which better indicates the tasks of both parts of an attacking force.

(21) Ger FSR, 4
(22) Ger FSR, 107

"Employment of the artillery in envelopment—(1) Aside from its general functions of neutralizing the hostile artillery and of assisting in securing the superiority of fire desired for the infantry advance, there are three important artillery missions in the envelopment:

(a) First, the artillery should assist in creating in the enemy's mind the impression that the holding attack is powerful and requires strong opposition. To accomplish this, it should push forward and get into action as early as practicable.

(b) Second, the greater part of the artillery should be prepared to concentrate its fire in support of the enveloping attack without delay.

(c) Third, the positions selected for the artillery, while permitting it to carry out the foregoing missions, should also make the greater part of the artillery fire available to support the holding attack in case of a serious hostile counterblow on that flank.

(2) The long range and fire concentration capabilities of the artillery should be so employed as to meet these requirements. At the same time, definite artillery organizations should be designated to support each attack." (33)

"Coordination of holding and enveloping attacks:

(1) The coordination of the two attacks (holding and enveloping) should be the personal concern of the supreme commander. Several methods of securing it are available. The holding attack may be directed to base its action on the enveloping attack after passing a designated line; the holding attack may be directed not to pass a designated line until a specified hour; or the hour when both attacks are to pass designated lines may be given. * * * (34)

c. Colonel Hanna, former instructor, Army Staff College and School of the Line, Fort Leavenworth, Kansas, in his "Tactical Principles and Problems":

"* * * To a certain extent, surprise is essential to the success of a flank attack, and the troops holding the enemy fast in front must therefore attack with such spirit as to leave the enemy in uncertainty as to the true point selected for assault, and to engage his attention so that he cannot keep large reserves in hand for the defense of his flanks. This does

(33) TPD, 21-22

(34) TPD, 22-23

not mean that these troops in the enemy's front necessarily must assault the enemy simultaneously with the flank attack, and take part in the actual bayonet charge, for if they can bring an effective and enfilading fire to bear on the point selected for assault, they will do more good by continuing to fire, than by joining in the assault. * * * (35)

"The secondary attack was extremely fortunate (in the problem under discussion) in being able to reach, without fighting, so advantageous a position * * * within 500 to 650 yards of the enemy. Ordinarily, it will suffer considerable loss while approaching such effective range, and we must not be deceived by the mild name given this attack (the 'secondary' attack) into believing that it is to be pushed with any less impetuosity and disregard for losses than the main attack. (While this term 'secondary attack' may be freely used in tactical discussions, for convenience of designation, still it is not wise ever to employ it when issuing orders.) If it were a mere bluff, the enemy would be very quick to learn that fact and would conserve his strength to meet the main attack when it should fall. But, as we have already pointed out, it may accomplish more, after reaching a decisive range (i.e., 600 to 650 yards), by attempting to gain fire superiority over the enemy and assisting the main attack in this manner than by advancing to the assault and taking part in the bayonet charge. Which plan is to be followed is a matter to be decided by the commander according to the merits of each individual case." (36)

HISTORICAL EXAMPLES ILLUSTRATING HOLDING ATTACKS

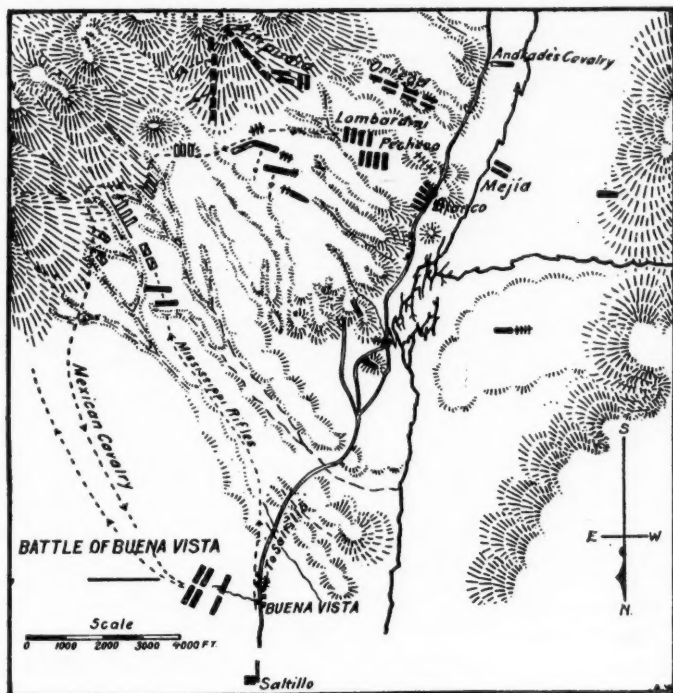
a. *Buena Vista*, 23 February 1847, offers a good example of the failure of an enveloping attack, which had been successfully initiated, caused by lack of pressure from the holding attack and lack of coordination in the attack as a whole:

Sketch No. 1 shows the initial dispositions of Taylor's army, totaling 4,757 men and 16 guns, in position astride the road: San Luis Potosi—Saltillo, at a defile south of Buena Vista. It was attacked on the morning of 23 February, 1847, by Santa Anna's force of approximately 14,000. The scheme of maneuver called for an attack by the brigade of Mejia

(35) Hanna, 250

(36) Hanna, 252

and the division of Blanco against the right and center of the American position, while the bulk of the Mexican force turned the American left. The turning movement was initially successful, as indicated on the sketch, but the failure of the Mexican holding force to press its attack permitted



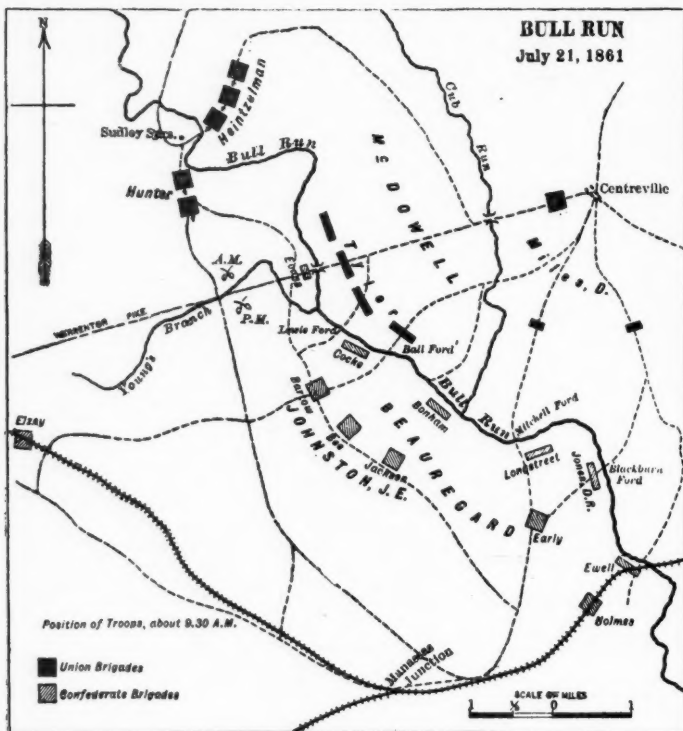
BUENA VISTA
23 FEBRUARY, 1847

Failure of Mejia and Blanco to press the frontal attack permitted Taylor to shift troops, including artillery, to meet decisive Mexican attack on his left.

Sketch No. 1

Taylor to shift troops, notably Bragg's battery, from his right, to meet the turning movement. Finally when the Mexican reserve was thrown in, there was no simultaneous assault by Mexican troops on other parts of the field, and Taylor was able to rush troops to the threatened point from

other fronts, and with the gallant assistance of Bragg's battery, which had again been moved, the final Mexican assault was driven off with heavy losses. (37)



FIRST BULL RUN
21 JULY 1861

Tyler's attempt to fix Evans by fire alone failed; Evans shifted troops to meet Hunter. Failure of Federals to exert any pressure south of Bull Ford, permitted Beauregard and Johnston to shift bulk of forces north.

Sketch No. 2

b. The First Battle of Bull Run, 21 July 1861, affords an excellent example of a failure of a holding attack to fix the enemy in place, the failure being caused principally by the fact that the holding attack relied chiefly upon fire and did not push its infantry attack:

(37) St, 92-95; Smith 389-390

McDowell, with 35,000 men (Febiger gives 30,600), concentrated near Centreville, planned to turn the left of Beauregard's force (18,000 men, increased before the battle to 32,000), which was along the south bank of Bull Run (see sketch No. 2), with the divisions of Hunter and Heintzelman, via Sudley Springs, while Tyler's division was to advance and, to quote Steel: "make the 'secondary attack' at daybreak by way of the Stone Bridge" on the Warrenton Pike. It is to be noted that apparently no troops were to be placed against the Confederate right, though Steele does say that "Miles' division, with Richardson's brigade of Tyler's division and a strong force of artillery, was to remain in reserve at Centreville, and to threaten Blackburn's Ford." That such a threat on Blackburn's Ford was actually made is not stated by either Febiger or Steele, but the results indicate that if any was made it was not strong enough to be effective.

We are chiefly interested, however, in the action of Tyler's force at the stone bridge. This bridge was guarded by two regiments under Colonel Nathan G. Evans. Tyler opened fire with artillery early in the morning, but, quoting Febiger, "as he did not advance with his infantry," Evans decided that Tyler's was not the main attack. Warned by a picket at Sudley Springs of the approach of Federals in that vicinity, Evans promptly shifted the bulk of his command to a position covering the road from Sudley Springs, leaving only a small force to guard the bridge. The Federal turning movement was thus blocked, and as there was no pressure on the Confederate right, Beauregard was able to shift troops to the north, and with the assistance of Kirby Smith's brigade, which had been moved up from Manassas, was able to outflank the Federals and win a decisive victory. (38)

c. *Mechanicsville*, 26 June 1862, gives us the example of the failure of a holding attack because of an attempt to drive it home before the enveloping force was ready to attack:

Following the battle of Fair Oaks, all of McClellan's army, except Porter's V Corps, was south of the Chickahominy River, close to the Confederate defenses of Richmond. Lee decided to crush Porter's corps, cut McClellan's communications, and seize his base at White House. Porter's right was protected by Beaverdam Creek, and covered by a small

(38) St, 134-142; Feb, 23-26

outpost at Mechanicsville (see Sketch No. 3). Lee's plan was for Jackson's corps to turn Beaverdam Creek from the north while A.P. Hill's division, followed by Longstreet's was to make the holding attack. The attack was scheduled for the early morning of 26 June 1862, but Jackson, who had a long march to make from Ashland, north of Richmond, was delayed, partly by felled timber, and at 3:00 PM had not arrived opposite Porter's flank. A.P. Hill waited no longer, but crossed the Chickahominy, drove off the Federal outpost at



MECHANICSVILLE

26 JUNE, 1862

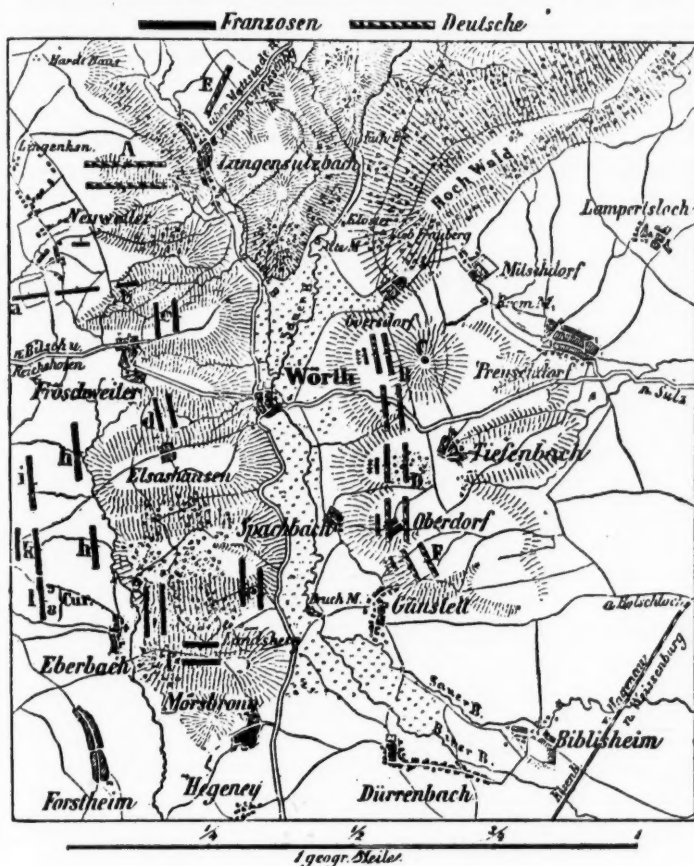
A.P. Hill prematurely launched the holding attack before the arrival of Jackson—the attack was a failure.

Sketch No. 3

Mechanicsville, and attacked the strong position east of Beaverdam Creek. One of the brigades of D.H. Hill's division, intended for the support of Jackson, went to A.P. Hill's assistance, but the Confederates were repulsed with heavy losses, and the opportunity to overwhelm Porter were lost. (39)

(39) St, 204, 215; Feb, 41

d. Battle of Wörth, 6 August 1870, includes two very interesting examples of holding attacks (see Sketch No. 4):



THE BATTLE OF WÖRTH

6 AUGUST, 1870

Sketch No. 4

Marshal McMahon's French army of some 37,000 men and 107 guns, had partially organized its position on the ridge west of the village of Wörth, blocking the advance of the German Third Army, under the Crown Prince of Prussia,

75,000 strong, with 231 guns. The German army, which consisted of the I and II Bavarian Corps, V and XI Prussian Corps, and Werder's corps (Wurtemberg and Baden divisions), was not fully concentrated for battle when the outposts and advance guards of the V and XI Corps, the leading corps, prematurely opened the fight by attacking the French center and right.

The first of our examples is taken from this preliminary attack of the XI Corps against the Niederwald and the ridge northwest of Morsbronn, held by the 4th Division of the French I Corps. The XI Corps sent three columns against the French position; the right column, 6,000 men, was directed against the northeast corner of the Niederwald; the center column, 5,000 men, had as its objective the substantial farm Albrechtshauserhof; and the left column, which was to make the flank attack, consisted of 6,000 men, with no artillery attached. All of the corps artillery—which consisted of 72 pieces, 9-pounder and 15-pounder breech-loaders, far superior to the French muzzle-loaders, with effective ranges from 3,500 to 4,000 yards—was placed on the hill north of Gunstett. Morsbronn, held by only two companies on outpost, was quickly taken by the flank column, which then changed direction to the right and advanced against the flank of the French in the Niederwald. The center group captured the Albrechtshauserhof after a hot fight, while the right column drove in the French outposts, entered the Niederwald, and advanced to the northwest toward the corner of the main French position south of Elsasshausen. The attack of the center column was so effective that it drew to itself the infantry counterattack of the French division, made by about 1,000 men. This counterattack was initially successful, but was finally checked by the *effective fire of the German artillery*, and the rapid advance of the German second line of infantry, which had *organized its attack in depth*. The three columns of the XI Corps were successful and the entire French 4th Division retreated across the Eberbach and eventually to Reichshofen. It is to be noted that 11,000 men were used in the frontal attack, which was essentially a holding attack, compared to 6,000 in the flank attack; it was the success of the latter that carried the position, but the fact that the center column (which apparently received the bulk of the fire of the

supporting artillery) drew to itself the French infantry counter-attack, played a major part in the victory. (40)

Meanwhile, the 10th Division of the German V Corps, which had attacked the French center west of Wörth, had been driven back with considerable loss, and the 4th Division of the II Bavarian Corps, which had attacked the French left, had been overpowered by a counterattack and had fallen back in confusion on Langensulzbach. The advance guard of the I Bavarian Corps had entered the fight between the II and V Corps, but the rear of all these corps, and Werder's entire corps, had not yet reached the battlefield at 1:00 PM, when the Crown Prince arrived at Dieffenbach. Seeing how thoroughly the army was involved, he decided to continue the attack, but to coordinate it and bring it under control. He therefore issued the following order: (41)

ARMY ORDER

"The II Bavarian Corps will advance against the enemy's left in such a manner as to gain a position in rear of it toward Reichshofen.

"The I Bavarian Corps will deploy as rapidly as possible between the II Bavarian and the V Army Corps, holding a division in reserve.

"The XI Corps will advance vigorously via Elsasshausen past the Niederwald upon Froeschwiller.

"Of Werder's Corps, the Wurtemberg Division will follow the XI Corps to Gunstett and across the Sauer; the Baden Division will move for the present as far as Surburg."

TO THE V ARMY CORPS

"The V Corps will defer its attack until the approach of General von der Tann (commanding the I Bavarian Corps), directed to the N. of Preuschdorf, and of the 21st Division, which has been ordered to march on Wörth (sic.) They are not to be expected for one or two hours. Werder's Corps, which has also been ordered up, will be quite three hours before it reaches the field."

We thus see that the V Corps, which with part of the I Bavarian Corps was to deliver the holding attack for the army operation, was instructed to withhold its attack until

(40) Hen, 21-24; Sch, 27-34

(41) Hen, 18; Sch, 39

the other troops were ready. We shall examine its attack in some detail:

During the advance guard action in the morning, the entire artillery of the corps (84 guns) had been brought up and placed in position as shown on Sketch No. 4. The Sauerbach had been swollen by rains so that it was from four to eight feet deep, so that when the 9th Division of the V Corps moved up to attack, the leading elements crossed the stream in two brigade columns, the 18th Brigade via the bridges at Wörth and the 17th Brigade via the bridge at Spachbach. Thus the 9th Division became somewhat intermingled with the 10th Division which was in Wörth and south thereof. The V Corps organized its forces into two columns, each of 12½ battalions, the right consisting of the 17th and 19th Brigades, and the left, of the 18th and 20th Brigades; the right column was formed with three successive lines astride the Wörth-Froeschwiller road; the left column formed with only two successive lines, and left 1½ battalions back in Spachbach. (42)

At about 2:00 PM, and before the XI Corps had cleared the Niederwald, the left of the V Corps was permitted to launch its attack. As the leading battalions of the 18th Brigade crossed the Sauerbach they received heavy fire from the opposite heights, and soon after they had crossed the Wörth-Hageny road they were counterattacked by a regiment of the French 1st Division, which was holding the ridge south of Elsasshausen, and were driven back in confusion. (43) The French counterattack, exposed to the massed fire of the corps artillery, fell back as the second line of Germans pressed forward to the attack. About the same time the leading battalions of the 17th Brigade began their advance from Wörth, headed for Froeschwiller, *the key point in the French position.*

Marshal McMahon, observing this dangerous attack of some 8,000 Germans, and knowing of the progress of the XI Corps through the Niederwald, lost his nerve, and not waiting to strike the flank of the decisive attack of the XI Corps, ordered the nearest available reserve, four battalions of the

(42) Hen, 31-32; Sch, 40-41

(43) Hen, 32; Sch, 41-42

1st Division, to counterattack against the 17th Brigade advancing from Wörth. (44)

This counterattack, thus hastily arranged, was without any artillery support, and was made in the face of the massed German artillery of the German V Corps. The counterattack was met with terrific fire from both infantry and artillery, its lines were quickly decimated, and soon the remnants of the force were flying to the rear in utmost disorder. Following up its success, the V Corps pressed forward up the slopes to the French position; the French were pushed back almost into Elsasshausen, and, to quote Henderson, "The two earthworks north of the Froeschwiller road were stormed *by a charge of three fresh companies, rushing forward through the firing line*; the defenders were driven into the woods beyond, and the lower crest of the heights above Wörth was occupied." A good infantry firing position had at last been gained, but the infantry was now masking the fire of the artillery. For an hour the opposing infantry lines, separated by only 300 to 500 yards, strove to gain fire superiority. General von Kirschbach, the German commander, called up his last reserve, even including a ponton company, and seven batteries of artillery advanced across the Sauer and attempted to get through the carnage in the streets of Wörth. But units had become so intermingled, casualties had been so great, that control of the action passed definitely into the hands of company officers, who could exercise control only over the small groups around them. (45)

But the attack of the XI Corps was beginning to make itself felt. The Niederwald was swept clean of its last defenders—the French Turkos had made a gallant stand there—and soon the left of the V Corps was supported by the right of the XI Corps. Some of the artillery of each corps succeeded in getting into position on the ridge south of Elsasshausen, at a range of only 800 to 900 yards from that village, which the French still held. Following an artillery preparation, in which batteries of both corps participated, the XI Corps, *joined by some detachments of the V Corps*, (46) rose to the assault, and finally carried the village. The French made one more desperate counterattack, but the closely-supporting

(44) Hen, 33, 37; Sch, 45

(45) Hen, 34; Sch, 86

(46) Hen, 40; Sch, 53

German artillery again raised havoc, and threw it back. Eight batteries of French reserve artillery galloped up to within a few hundred yards of the German infantry, in a rash attempt to drive them back, but this artillery was literally slaughtered by the German fire. A final cavalry charge met with a like fate. At 4:30 PM, the attack of the V and XI Corps on Froeschwiller, linked with the flank attack of the I Bavarians from the north, carried Froeschwiller, and the French were soon in full retreat.

The V Corps bivouacked for the night east of Froeschwiller—and counted its dead. Of its total strength, approximately 21,670, it had lost 220 officers and 5,436 men. But it had gallantly played a major part in this opening victory of the war: Not only had it held in place the opposing enemy, but it had attracted to itself at least two counterattacks, aggregating 4,700 reserves, at a critical time in the progress of the decisive attack, that is while the XI Corps was still struggling through the Niederwald. (47)

e. Other examples:

Finally, let us cite, without going into details, two examples of holding attacks that developed into main or decisive efforts: the attack of the Eighteenth Army, under von Hutier, in the German Offensive of 21 March 1918 (48), and—though not as clear-cut a case—the attack of Longstreet's corps at Chickamauga. (49)

ANALYSIS AND DISCUSSION

a. Guiding principles:

A study of the above-quoted extracts of doctrines and opinions indicates that, while modern military thought recognizes the importance of holding attacks, there is still some haziness with regard to the practical ideas underlying the planning and conduct of such attacks. Especially is this true when we come to the application of these doctrines to concrete problems, whether they be in the school room or in field maneuvers. Thus we frequently find, on the one hand, tasks assigned to holding attacks out of all proportion

(47) Hen, 36; Sch, 86

(48) Hind, 348, 350; Lud, 231-2

(49) St, 436-7; Feb, 223

to their means, and on the other, spurious attempts to accomplish the impossible by fire alone.

It is believed that perhaps the chief reason for this lack of clarity in our ideas with respect to holding attacks may be found in a similar lack of clearness in our conception of the principle of economy of force. Foch, in the opinion of this writer, captured the essence of this principle when he wrote: "If you said that it (the principle of economy of force) is the art of not dispersing one's forces, you would only say a part of the truth. You might come nearer to it if you defined it as the art of knowing how to spend, of spending to good purpose, of drawing all possible advantage from the resources at hand." (50) Thus we have a conception of economy as not merely saving, or stinting, but as *spending wisely* in proportion to the need. Liddell Hart apparently has the same idea expressed in his discussion of Strategy in the Encyclopedia Britannica: "Pure strategy * * * 'the art of the general,' depends for its success, first and most, on a sound calculation and coordination of the end and the means. The end must be apportioned to the total means, and the means used in gaining each intermediate end which contributes to the ultimate must be proportioned to the value and needs of that intermediate end—whether it be to gain an objective or to fulfill a contributory purpose. An excess may be as harmful as a deficiency. A true adjustment would establish a perfect economy of force." (51)

We believe that a logical deduction from this conception of the principle of economy of force, as applied specifically to holding attacks, would be that: After deciding what a given holding attack is intended to accomplish, the commander should allot *adequate* means for this purpose. It is believed that this should be the guiding principle in planning holding attacks. Its application will be further developed later in this discussion.

When we come to the actual conduct of the attack, it is believed that the directing principle should be that of *surprise*. After a study of the doctrines of our own and foreign armies, and a mental review of our experiences in map problems and maneuvers, it is felt that greater emphasis should

(50) Foch, 50

(51) Enc Br, 454

be given to the desirability of having the holding attack *deceive* the enemy as to the *time* and *direction* of the decisive attack. It is a curious fact that while none of the foreign official publications stress this point, such military writers as Foch, Fuller, and Balek do emphasize the necessity of deception. Our Field Service Regulations mention deception but do not stress it in connection with holding attacks, and "Tactical Principles and Decisions," the Command and General Staff School, does so only incidentally. Though the Infantry School lists the first mission of a holding attack as: "To deceive the enemy as to the location of the main effort," this writer cannot recall a single instance, during his four years as an instructor at the Infantry School, of a problem in which this mission was brought out.

In the discussion that follows it is hoped to bring out some measures by which this essential deception may be obtained.

b. The contact phase of the attack:

In a meeting engagement, the holding attack begins at once with the advance guard action, as is stressed by the French and our own regulations. By promptly reinforcing the advance guard, particularly with artillery and machine guns, the initial fixing of the enemy is accomplished if the advance guard seizes the dominant terrain in the area of contact. Thereafter, until the combined attack of the main body begins, the mission of the holding forces is chiefly that of security. During this period they may have to attack in order to prevent the enemy from discovering where the mass of the main body is assembling for the decisive effort, or to divert the enemy's attention from a turning movement, as Lee did at Chancellorsville. (52)

Under cover of these operations, the commander of the main force lays his plans. Having decided upon the form of attack and the direction and object of the decisive attack, the chief thing, from a practical standpoint, that he must next decide, is the location of the boundary between the decisive and holding attacks. This should be determined mainly by the terrain and the enemy organization. It should not, in the opinion of this writer, be based on the strength

(52) St, 339; Feb, 151.

of the troops already committed to the holding operations of the reinforced advance guard, or on the total strength of the troops to be assigned to the holding attack, as is believed to be often the case in our service. This latter strength should be decided *after* the selection of the boundary between the two attacks. This boundary, in the opinion of this writer, should give to the decisive attack only such part of the terrain and enemy organization as will permit the enemy to place direct infantry fire and observed artillery fire on the area to be traversed by the troops making the decisive attack during their progress to the decisive objective of the attack. The remainder of the enemy position, and terrain in rear thereof, should be assigned to the holding attack.

Having thus decided on the frontage to be assigned the holding attack, the commander of the main force should now consider briefly the probable scheme of maneuver of the holding force, what it should accomplish, and the means required for the purpose. We shall examine into these factors at greater leisure than is permitted the commander in the field.

c. Mission and scheme of maneuver of the holding attack:

To accomplish its chief mission of holding the enemy in place, the holding attack has a choice between the time-honored means of fire or movement, or a combination of both. Despite the experiences of Santa Anna at Buena Vista, the Federals at the First Battle of Bull Run, and other failures too numerous to cite in detail in this study, some military students appear to believe that an enemy may be fixed by fire alone. This may be done on relatively small portions of a front, under certain conditions, but its broad application to battle against a determined opponent, should be very carefully weighed. This writer took down (as nearly verbatim as possible), in the course of a general conference at the Command and General Staff School, the following statement: "The holding attack is a pressure by fire and should make no effort to get forward." As further evidence of possible need for further clarification of our ideas on firepower, we might note this unqualified statement, contained in the synopsis of Lecture MH 212, C. and G.S.S., 1932, among the

lessons to be learned from the German Offensive of March 1918: "It is fire power that wins battles, not shock action."

It is believed that the best value we may derive from the study of the doctrines of foreign armies quoted in Section IV above, lies in the French conception of the proper balance between fire and movement in the holding attack.

As is usually the case, fire and movement must be combined if the enemy is to be *deceived*, and if he is to be *forced* to commit reserves to meet the holding attack. Lacking the man-power to advance simultaneously all along the extended front ordinarily assigned to the holding attack, the logical thing to do would seem to be to concentrate the effort to advance on a frontage over which a *threatening* attack can actually be made with the means that the commander is willing to assign to the holding attack. It might be well here to consider again the caution of Lemoine not to overeconomize on our holding attacks.

Having decided to make a determined attack over only a limited portion of the front, let us next consider the objective of this attack. Here we are at once faced with the inherent weakness of the holding attack: lack of depth, lack of reserves. We must admit and accept this weakness and limit accordingly our expectations of what the holding attack can do. The objective, therefore, should not be too deep beyond the enemy's front line, particularly in the attack of a position. (The very narrowness of the front of attack is another factor that limits depth to which the holding attack can go.) But, if possible, the attack should be directed at some vital area, or terrain feature, the capture of which will seriously jeopardize the position. To facilitate cooperation between the two attacks, the objective of the holding attack should preferably be toward the flank or area over which the decisive attack is to be made. As examples of such objectives, witness the attack of the center column of the German XI Corps on the Albrechtshausenhof, and the attack of the right column of the V Corps toward Froeschwiller in the battle of Wörth. It should be noted that the V Corps bivouacked near Froeschwiller, less than a mile back of the enemy front line; it had not advanced very far, yet it had accomplished its mission.

If there is no single terrain feature close to the front, the capture of which will seriously threaten the fall of the

enemy's position, then the objective, should in the opinion of this writer, be one which will enable the attacker to place effective fire on the mass of the enemy artillery and/or reserves which the enemy might try to shift from the front of the holding attack to meet the decisive attack. To illustrate the point, let us again examine the solution overlay to Map Problem No. 7:*

Eight enemy infantry battalions are known or suspected to be on or immediately back of the front assigned to the holding attack, which attack is to be made by only four battalions. There appears to be no single vital terrain feature in the front part of the enemy position. But if the area included by hills 603-a, 583, and 604-b is taken, direct observation over the area of the enemy artillery will be provided, as well as over the valley of Muskrat Run, across or via which any troops from the five battalions north of hill 603-a must move, if they are to assist in checking the decisive attack. These three hills (and Seven Stars, which covers hill 604-b) are now held by three enemy battalions. Therefore, we should not expect our four battalions, all that have been made available for the attack, to do more than advance and capture this area, and then by *fire*, and by a tenacious *defense* against all reserves brought against this area, prevent the enemy from shifting reserves from the northeastern part of his position to meet the decisive attack. If we expect more than this, then we must assign more troops to the holding attack. (It is the opinion of this writer that the holding attack in this problem should have another battalion.) But since the holding attack is not intended to be decisive, it will have achieved its mission, if, in this particular case, its four battalions can immobilize or assist in immobilizing the eight battalions in their front. The task of driving off the remaining four battalions and capturing hill 969, the objective of the decisive attack should be relatively easy for the remainder of the force. After the advance of the decisive attack crosses Marsh Creek it will probably be possible to continue the

*References to Map Problem No. 7, cover an attack, by a division acting alone against a force which has adopted a position defense. It illustrates the issuance of orders for an attack against a flank of the hostile position, by the use of a wide maneuver. For further details see: TP&D, Map Problem No. 7—Series II, February 13, 1933.

advance of the holding attack, perhaps by using the division reserve. In any event, it is believed that if this holding attack has a fighting chance of accomplishing its mission, it is mainly because provision has been made to give it strong artillery support.

d. Fire support for the holding attack:

Our Field Service Regulations, particularly paragraph 439, seem to place more emphasis on adequate fire support for the holding attack than do any of the foreign sources studied. Yet, despite this, it is believed that our holding attacks are seldom accorded sufficient support, and that which is given is dissipated on too diverse missions and over too broad a front. Here again, we believe that the solution to Map Problem No. 7 is an exceptional model that merits study. From a simple reading of the missions of the artillery in an enveloping attack as expressed in "Tactical Principles and Decisions," C. and G.S.S., it would appear that we perhaps place too great faith in the flexibility of our artillery fire. It is believed that the light artillery in direct support of the decisive attack will seldom be able to support the holding attack, and vice versa. The difficulties of observation, liaison, and the short range and flat trajectory of our present light guns all combine to make such flexibility of fire difficult of actual accomplishment under service conditions. How then can the holding attack be given greater fire support without robbing the decisive attack which can justly demand the bulk of the artillery support?

The answer would seem to lie mainly with the medium and heavy artillery, combined with improvised signal communications and aerial observation of fire. These latter technical developments are progressing rapidly in our service. It is believed that they will permit initial locations of the mass of medium and heavy artillery to be placed somewhat centrally between the decisive and holding attacks and permit the necessary shifting of fires from one attack to the other.

Since the holding attack should be used to deceive the enemy, and since it should take in the major part of the enemy's position, its front should receive the bulk of the artillery preparation that is not devoted to counterbattery; and this fire should be concentrated on the front over which the hold-

ing attack is to make its real effort. Furthermore, it is believed that, in case of an envelopment, it should receive during the *initial phase* of the attack a large part of the fires of the artillery in general support. As pointed out by Fuller, this will add to the chances of deception and will give the holding attack proper support at the time it needs it most, without endangering the success of the decisive attack. The initial jump-off of the holding attack can be made to look like a decisive attack only if it receives such artillery support. After the holding attack has secured its objective, which we have indicated should not be deep within the enemy's lines, it should be able to hold its gains with little additional help. The decisive attack can then be given practically all of the support of the heavier guns.

Fire support for that part of the holding attack which is not expected to make a serious effort to get forward initially, will probably have to come from what little light artillery can be spared from that assigned to direct support of the holding forces, and from the infantry's own supporting weapons. In the solution to Map Problem No. 7 no artillery is shown in direct support of the 1st Battalion, 1st Infantry. It is the opinion of this writer that a battery of the 1st Field Artillery should, initially at least, be placed in direct support of this infantry battalion. In order to deceive the enemy as to the strength of the forces on this front, it is believed that we should follow the practice of the Germans, and emplace this battery by section, and perhaps by individual piece, positions should be changed frequently both before and during the attack, and the rate of fire should be increased. If the infantry battalion commander should decide to make a limited-objective attack with one or two companies, to seize hill 668-a, for example, the artillery battery should be able to concentrate its fire at the desired time on that objective.

Similarly, the infantry cannon and machine guns should be distributed by section or platoon, and sited primarily for enfilade fire. If time permits, the four machine guns now carried in the combat wagons of each of our rifle companies should be brought forward and employed, their positions and missions being coordinated, in this instance, by the battalion machine-gun company commander. Machine-gun and rifle fire should effectively hold in place any enemy troops located on forward slopes, but the reserves are much harder to pin

down by fire alone. Since little or no curved-trajectory artillery will be available to reach reserves on the front of 1st Battalion, 1st Infantry, the maximum use should be made of the infantry mortars, and additional ammunition should be brought up for this purpose. Long-range machine-gun fire, by indirect laying, should likewise be used to search reverse slopes in order to pin down local reserves; this fire will have to be delivered by those guns emplaced by platoon, and their fires coordinated. Targets for such infantry fires can be located, and the adjustment of fire accomplished only by airplane observers, who will be able to report the results of fire only in terms of movement or lack of movement of the reserves attacked. Such reports can be delivered by dropped messages and are practicable. If aerial observation is not available, then a determined effort should be made to seize an observation point on the enemy's front, from which the area of their local reserves can be observed. In Problem No. 7, hill 715 or hill 668-a should suffice.

e. Coordination with the decisive attack:

There appears to be two general methods of coordinating the launching of the decisive and holding attacks: they may be executed simultaneously, or the holding attack may precede the decisive attack. Each scheme has its merits. In case of a penetration, all the advantages seem to be with the simultaneous attack. In case of an envelopment, the two chief advantages of the simultaneous attack are: (1) the attention of the enemy is at once distributed over a broad front; (2) the advance of the holding forces may cover the approach of the decisive attack as it debouches from the cover back of which the mass of troops have been concealed. The disadvantages of the simultaneous attack are: (1) the decisive attack may be discovered before the enemy has even had an opportunity to commit reserves in a false direction; (2) the fire support of the attack may be dissipated over the wide front of attack, to the detriment of both the holding and decisive elements, and with a loss in deception.

The great danger in having the holding attack launched before the decisive attack is that piece-meal action may result, and the enemy may be able to shift reserves successively

to meet each attack, as Lee did at Antietam. (53) There can be no doubt that a premature attack by the holding force, before the main force is in position—as in the case of A.P. Hill's attack at Mechanicsville—has nothing to recommend it. But in avoiding such errors, we should not lose sight of the possibility, on occasion—after insuring that all troops are in position to attack—of starting the holding attack ahead of the decisive effort. This method is apparently favorably regarded by Fuller and Lemoine, is evidently often employed by the Japanese, and is authorized in paragraph 382 of our Field Service Regulations. The chief advantages of this method are that it offers more opportunity for deception and makes possible greater initial artillery support for the holding attack. In the event that this procedure is used, the decisive attack should be launched as soon as the enemy is thoroughly embroiled with the holding attack and before the inherent weakness of the latter is discovered. The difficulty of determining in advance this propitious moment is one of the weaknesses of this method, but in some instances successive attacks may be fixed by pre-arranged time schedules, or as suggested in "Tactical Principles and Decisions," upon capture or assault of a certain terrain feature, or the passage of a certain line. Improved methods of communication should overcome some of the difficulties of coordination.

f. Advancing the attack:

We have considered so far the preliminary planning of the attack, planning that is essential for success. What follows in the actual execution of the plan will depend, as at Wörth, on the cool direction of higher commanders, the aggressive leadership of the junior officers, the fighting qualities of the men, and finally on the confidence these junior leaders and men have in their senior commanders. It is the belief of this investigator that we make a mistake in teaching that our subordinate officers and men should not be informed of the true nature of their attacks. Loyalty cannot be built up; it must begin at the top of our military hierarchy and work down. The troops that deliver the holding attack today may be called upon to make the decisive effort next week. If they are needlessly sacrificed in one, the survivors are not likely to attack with loyal enthusiasm in the next.

(53) St, 281, 283; Feb, 76.

But if the limitations of the holding attack are frankly considered by the commander, and the troops called upon to do no more than they can reasonably be expected to accomplish, a loyalty will be developed in the rank and file and the junior commissioned grades which will attain results far beyond that which the material means allotted to the holding attack would seem to render possible.

On this basis then, it is believed that those troops which are to actually advance from the outset should be given initially a limited objective, as indicated in the discussion of Map Problem No. 7 above, and that the only forward movements to be ordered on the remainder of the front of the holding forces should be limited advances to secure terrain from which to improve the observation and adjustment of fire.

The actual conduct of every attack will differ, so that it is neither possible nor desirable to attempt to develop a set procedure here. It is believed, however, that the necessity of deceiving the enemy as to the strength and intent of the holding attack, demands the greatest possible *initial display* of strength, both in manpower and fire support, on the front over which an advance is actually to be made. The danger of excessive casualties from the concentration of enemy fire on a very narrow front will be reduced if the front of attack is made as broad as the strength of troops allotted, and the intended depth of penetration, will permit. This danger will be further diminished if the attack is delivered via a compartment of the terrain over which the observation of the enemy is limited, and if extensive use is made of smoke to blind enemy observation posts.

Since the main effort of the holding attack will usually result in a penetration, the attack should follow the general principles applying to such a form of attack. These will not be discussed here. It must be remembered, however, that the penetration will usually be only local, and that there will seldom be reserves immediately available to exploit the success at once. This will result, in our opinion, in a somewhat prolonged defense of the area captured, until the advance of the decisive attack is able to assist the holding attack forward, in return for the earlier assistance of the holding attack, as already outlined above. Since the holding force within the area of penetration will probably have to defend

itself against counterattacks, it is important that as soon as possible some light artillery should be brought forward where it can give close support to the defense. Wörth affords a brilliant example of the value of such bold artillery action.

Despite the necessity for an initial display of strength, it is believed that the holding attack should hold out a reserve, though it will have to be very small in proportion to the total strength. It should be placed back of the front over which the actual advance is to be made, and if it is a battalion or larger its machine guns and cannon should be used to support the initial attack, additional ammunition being brought forward for this purpose. There should be no hesitancy on the part of the commander to use the reserve early if necessary to secure the objective.

g. Defensive mission of the holding attack:

Even after the advance guard action is over and the general attack has begun, the holding forces do not lose their inherent mission of security. Provision should therefore be made for the organization of the ground on the exposed flank, to guard against an envelopment, as is again well demonstrated in the solution to Map Problem No. 7. If the engineers cannot be released from necessary road work, then all available infantry and artillery troops should be put to work.

h. Employment of the general reserve in support of the holding attack:

While not essential to this discussion, it is believed worth while to point out that the holding attack may develop into the main effort of the whole attacking force. This may happen by chance, as at Chickamauga when Longstreet struck Wood's division in flank as the latter force was changing its position. Or it may result from an unexpected success, as in the German Offensive of March 1918, when the Eighteenth Army made unexpectedly rapid progress against the British Fifth Army. French, German, Japanese, and our own Field Service Regulations call attention to the fact that such unexpected successes should be taken advantage of promptly. Paragraph 382 of our Field Service Regulations points out that surprise is furthered by variation in the means and methods employed in attack: "Fixed methods of procedure enable the

enemy to estimate the character and object of an operation." If, in actual combat, we are to employ such wide envelopments as pictured in Map Problem No. 7—which we should—the natural tendency for the defender will be to hold his front more lightly than ever, while waiting to discover the direction of the decisive enveloping movement. In this event, we should be prepared, especially after the first or second such attack, to punish the defender who weakens his front too far. This can readily be done, if the artillery in general support and the general reserve have been correctly placed, by using the general reserve to capitalize the initial greater success of the holding attack, and thus perhaps turn it into the decisive attack.

CONCLUSIONS

a. That before deciding upon the allotment of manpower and material means to the holding attack, the commander should carefully consider and decide what he wants the holding attack to accomplish, and then give the holding force adequate means for the desired end.

b. That additional stress should be placed on the necessity of having the holding attack deceive the enemy as to the time and direction of the decisive attack.

c. That among the means by which the enemy may be deceived are:

1. An initial display of considerable strength on a part of the front of the holding force, in the form of a determined attack directed against some critical terrain feature or area within the enemy position.

2. Concentration of the bulk of the artillery preparation, not devoted to counterbattery, to that part of the front of the holding attack over which the determined attack is to be made.

3. Initially directing the fire of the bulk of the medium and heavy artillery, not used for counterbattery, to support this attack.

4. Employing part of the light artillery, infantry cannon and machine guns by section or individual pieces; by changing positions of these weapons frequently; increasing rates of fire; and making greater use of smoke.

5. When conditions are opportune, varying the usual simultaneous attack by launching the holding attack ahead of the decisive attack.

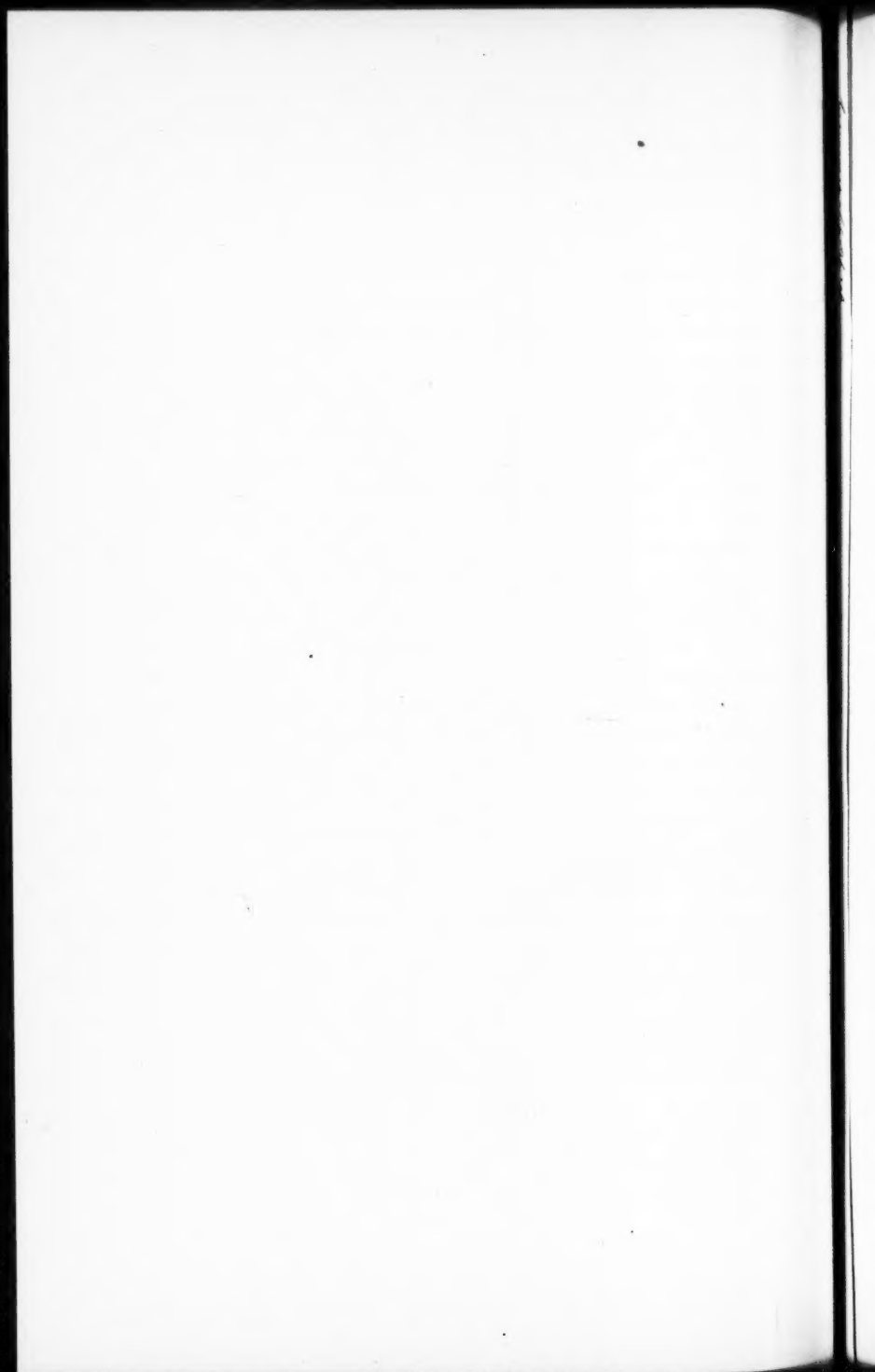
d. That fire is not sufficient to fix an aggressive modern defense, but that an actual assault must usually be combined with pressure by fire.

e. That this assault should be delivered over only part of the front, and directed at a critical terrain feature or area not too deep within the enemy position; that this objective should permit fire to be placed on the enemy artillery and on the reserves and front-line troops which the enemy may endeavor to shift to meet the decisive attack.

f. That we should expect the holding attack to operate chiefly *by fire* after capturing its objective, until the decisive attack has progressed far enough to assist the advance of the holding attack.

g. That subordinate leaders and the troops making a holding attack should be informed as to the actual nature of their tasks, in order to inspire and retain their loyalty.

h. Finally, that we should give more thought and practice to the planning and conduct of holding attacks. If we may be permitted to use the oft-repeated analogy between football and combat, we may perhaps be able to point our lesson more sharply. Everyone who knows football realizes that the most brilliant backs are helpless without a good line. However, only the coaches and the players themselves know that good lines do not simply happen: they are developed by training. And the great line-shifting plays of modern football, the idea of a *guard* running interference, for example, did not occur by chance: they had to be conceived. Our holding forces should not only hold the line for the decisive attack; they should also help to run the interference by taking out enemy reserves, and should deceive the enemy as to where the real play will strike. We shall not be able to do this unless we apply to our holding attacks practical tests in the field, and constructive thinking.



Section 3
ACADEMIC NOTES, C. & G.S.S.

REPRINT OF CURRENT SCHOOL MEMORANDA, WHICH AFFECT INSTRUCTIONAL PROCEDURE OR TACTICAL DOCTRINE.

CONTENTS

	Page
Boundaries in Attack and Defense	99
Assembly Positions	102
Tactical Principles and Decisions—Development for Combat	103
Tactics and Technique—Infantry (Tanks)	105

Boundaries in Attack and Defense

[Memorandum of 1 November, 1932]

1. QUESTION PRESENTED.—Is it desirable to have the boundaries between units along the high ground or the low ground—along the ridges or the valleys? Also, is there any difference in this respect between the offense and the defense?

2. ASPECT CONSIDERED.—Terrain is a factor in every tactical plan, but it is only one factor. In this discussion it is to be understood that only the influence of the terrain factor is being considered. It is to be borne in mind that there are other factors also to be considered in any tactical plan, and boundaries are part of a tactical plan.

3. OFFENSE.—a. Let us assume that the decision to attack has been made, and the general location and direction of the decisive attack decided on. The boundary question is one element in the plan of execution. Let us plan our attack so as to take the maximum advantage of the terrain and see where the boundaries will naturally fall.

b. What do we mean by planning the attack so as to take the maximum advantage of the terrain? We mean that, having the initiative, we want to force the fighting of the decisive attack to take place on ground favorable to the attack—where we can bring to bear our preponderance in strength and where we can minimize the advantage the defense possesses of organization of the ground, organization of fire, etc.

c. The offense usually has more infantry than the defense. If we direct our decisive attack through close country—very hilly, rugged, thickly wooded, etc.—we do not bring its preponderance to bear. Relatively few men can materially delay it. Also the very rugged, wooded, hilly terrain does not favor the most efficient support from the artillery, tanks, and air corps. Thus the avenue of approach (unless gas is an important factor) will generally be along a valley, in order to use our superior strength to advance the decisive attack as rapidly as possible.

d. We not only want to bring our own strength to bear, but desire also to minimize the fire we must overcome. If we advance between two ridges, we only have to overcome the observed fire from the area between the crests of those two ridges. The enemy on the exterior (outer)

slopes of the flanking ridges cannot place fire by direct laying across our path of advance.

e. Both the preceding paragraphs tend to show that if we plan our offense so as to take maximum advantage of the terrain, our boundaries between units will normally fall along the crests of ridges.

f. There is of course no rule of thumb. Our basic considerations of bringing our preponderance of strength to bear may indicate the desirability of directing our decisive attack down a ridge with the boundaries along the valleys. Suppose the terrain consists of broad, fairly open ridges separated by narrow valleys. In this case we may accept the disadvantage of having to overcome a wider front of enemy observed fire, in order to make our own strength effective. No terrain is likely to be ideal. It is a question of understanding it—of realizing the relative advantages and disadvantages, and planning so as to get the most advantages combined with the least disadvantages.

g. Summing up for the offense we can say that, when we have planned our offense so as to take maximum advantage of the terrain, we shall usually find that our boundaries between units fall along the crests of the ridges.

h. This complies with the Manual for Commanders of Large Units, Volume I, paragraph 24: "The mutual influence of the opposite slopes on each other, and the lay of the communications, usually make it necessary to place a valley, used as a route of advance or action, wholly within the zone of a single large unit." This is equally applicable to small units.

4. DEFENSE.—a. The attacker examines the defensive disposition, and, by analysis of the ground and the method of occupancy and of organization, he picks out the key feature(s) of the defense. This (these) then become his objective(s). He then plans a maneuver to enable him to capture these objectives. This maneuver contemplates fixing (pressure) attack(s) to hold the defense in place, and decisive effort(s) to move by the most favorable approach(es), toward the selected objective(s). The decisive effort(s) is (are) favored by being supported by all the means that can be apportioned and by being assigned the most favorable approach(es). The attacker seeks to oppose strength to weakness.

b. Conversely, the defender seeks to oppose strength to strength. In consequence he analyses the probable enemy plans, and assigns to each hostile approach a definite priority in terms of the degree of danger (risk) which it represents to him. He then so disposes his means as to meet the attacker in the manner most favorable to the defense. The best defense, like the best attack, utilizes surprise, and so is based on applying fire from a flank. The defender wishes to commit the minimum force to holding localities, and to hold out the maximum, as reserves, to give mobility, flexibility, and elasticity to the defense. He therefore looks for a line of localities along the front, which can be held initially by small forces, and which will enable him, by flanking fires, to command the attacker's approaches. The force utilized to meet the enemy head-on between the flanking localities at each line of approach will vary with the nature of the ground (fields of fire from the flank), the degree of visibility (fog, smoke, darkness, rugged or open ground, presence or absence of woods), and with the presence or absence of gas. The desire is to check the enemy with a minimum force in front, and to destroy him by fire from the flanks. Thus the defense endeavors to make advantages of terrain compensate for relative weakness as to numbers.

c. We have already come to the conclusion that the offense will usually direct its attack along the valleys, with its boundaries between units along the crests of the ridges, one of the reasons being the desire to minimize observed flanking fires from the defense. Conversely the defense desires to retain in its possession the very things of which the offense desires to deprive it. Thus the defense, in general, desires to retain the

observation. Ordinarily, the vital observation is not on the front line; so in assigning localities to be defended by small front-line units, such as platoons or companies, we will frequently find that other characteristics of the terrain, such as concealment for the enemy approach, will outweigh observation from the front-line units wholly in the low ground across approaches, but when we come to grouping these units together under successively higher commanders, it will usually be advisable to include the high ground on the flanks. If the boundary line between localities follows the ridges, as on the offense, the localities are not mutually supporting. As soon as one locality falls, the offense has an approach free from flanking fire through which it can progress through the front line and outflank the localities on either side. If we are going to hold one commander responsible for holding a given area, it is desirable to give him the responsibility for stopping an attack on that locality, no matter from what direction it may come. If his area only includes the low ground between ridges, the failure of a neighboring commander will give the enemy a covered approach to his flank and rear, on which he can place no fire.

d. The localities thus selected are those areas the holding of which will hold the position. The size of the unit charged with holding one of these localities will of course vary with the size and the tactical importance of the locality. These localities will usually include the high ground, since in the normal case it is difficult to hold the low ground if the enemy possesses the high ground alongside of it. It is admitted that the offense can concentrate a superior force against almost any part of the defensive line that he may select. The commander of the whole defensive force does not expect the front-line units to stop this attack. It is the force in rear that is relied on to stop the attack. All that the extreme front-line units are expected to do is to hold their tactical localities, or areas. If most of these localities are held, the enemy attack is limited in depth and checked long enough for the reserves to arrive. An enemy penetration is limited in depth unless he can widen the base. For this reason the defense tries to hold the shoulders on both flanks of the penetration, and the offense tries to widen the base of his attack.

e. Thus, the basic mission of the commander of a front-line locality is *not* to prevent any penetration of any kind whatever; for we admit in advance that he cannot do this. His basic mission, rather, is to hold his locality. He checks and limits the penetration not primarily by getting in front of it, but by holding the shoulder. Since the basic idea is a line of tactical localities to be held, we want one commander in command of each front-line locality. The boundaries then fall naturally between localities. Since the localities usually include the high ground, the boundaries usually will fall between the higher places—along the valleys.

f. Where in the valley? A valley is rather an indefinite line; it has breadth.

In order to arrive at a reasonable answer to this, and one consistent with our reasons expressed above for putting the boundary in the valley, let us base it on the same theory of the defense.

If one commander is to be responsible for holding a given locality, he should have the responsibility for defending the avenues of approach to it. Thus the guiding consideration in deciding on the boundary between the tactical localities is to give to the commander who would be most menaced by a penetration between these localities, responsibility for defending the approaches that might be used to attack him. This means that usually the boundary will not fall down the middle of the valley, but along one side or the other of the valley.

g. To determine the size of the garrison to hold any one locality (shoulder) is not a difficult matter, but the question now arises: How shall we determine which of the given series of localities shall be organized together under one (higher) commander? The answer to this is, again, the application of the principle of unity.

We know that the power exerted by a given force is proportional to the degree of unity existing in the efforts of its components.

We have provided for unity of action in holding each shoulder. We must now provide, so far as practicable, for unity of action in defending each approach; this can be done only by linking together, under one (higher) commander, the shoulders on the flanks of the approach. As all approaches cannot be so defended unless we subdivide the command of the adjacent shoulders (which we have seen to be undesirable), it is necessary to make a selection. This is done by assigning a priority to each approach, in terms of danger to the defense, and by emplacing across each approach, in its order of priority so far as we can, a single (higher) unit, with its flanks clamped to the adjacent shoulders. Looking at the process from the bottom up (from small units to large), we begin this clamping process with the smallest adequate or permissible garrison, thereby adding to the unity of the defense and to its flexibility and elasticity. Thus, so far as other factors permit, the areas of platoons on the shoulders are combined into company areas to bar the approaches between the shoulders; company areas are combined into battalion areas, and the larger units are combined to form larger tactical localities, the holding of which is essential to holding the line from the corps and army view point.

While we have started from the bottom and worked up, the usual procedure, in a deliberately assumed defense, is the reverse. However, the principle is the same—unity of command of the localities essential to hold. For instance, the army commander may designate the general line he desires defended by naming a number of large terrain features or areas, and making sure that these areas fall wholly within the sector assigned to one corps. Similarly the process is carried down the line, each commander in turn prescribing the line in more detail and observing the principle of unity in command of the localities he deems it essential to hold. In the larger units an additional measure to prevent outflanking of front-line localities is the provision for switch positions. Switch positions are generally so located as to defend the critical front-line areas from flank attack in case of a penetration.

4. Summing up for the defense we can say that, when we have planned our defense so as to take the maximum advantage of the terrain, we shall usually find that our boundaries between units will fall in the valleys—generally along one side of the valley.

5. CONCLUSION.—a. There is no rule of thumb. Moreover, we are considering only the influence of the terrain factor. There are other factors that also influence the problem. The nearest we can come to a definite answer to the question presented is somewhat as follows:

(1) We cannot say that it is desirable to have the boundaries either in the valleys or on the ridges.

(2) We can say that it is very desirable to plan either a defense or an offense so as to take maximum advantage of the terrain.

b. When we do that we will usually find: that boundaries in defensive situations will fall naturally along the low ground—in the valleys; and generally along one side or the other of the valley; and that boundaries for the offense will fall naturally along the crests of ridges.

Assembly Positions

[Memorandum of 26 August, 1933]

1. The following doctrine will govern in selecting assembly positions for the infantry division:

a. There can be no fixed rule as to the distance the assembly positions should be from the position of the enemy. Each situation presents a different problem which must be solved by the commander. A force

which has gone into assembly positions has but a limited power of maneuver. Once developed it will require time before it can resume its march formations. It is, therefore, essential that a commander before deciding on the movement into assembly positions must satisfy himself that a forward movement in march formation can no longer be carried out with safety. In some cases it may be best to continue the forward movement to covered assembly positions even though exposed to fire from part of the enemy's artillery.

b. Again it may be best to select assembly positions out of range of his medium artillery. For average terrain in a meeting engagement, the assembly positions will ordinarily be not closer than 4,000 to 5,000 yards from the hostile front line unless advantage can be taken of the cover afforded by a dominant terrain feature (for example: Sheridan Ridge or Wolf Hill Ridge). The maximum distance of the assembly positions from the enemy's position will depend primarily upon the nature of the concealment afforded by the terrain, the range and amount of the enemy's artillery in position or which may be in position in time to interfere with the operation, and the terrestrial observation facilities available to the enemy (see FSR, par. 405).

Tactical Principles and Decisions

Development for Combat

1. **CALCULATION OF TIME OF ATTACK.**—In determining the time that an attack will be delivered, it is desirable to have a uniform method of calculating the *earliest* time that such an attack can be made. The method of determining the minimum time for use in solution of problems at this school is indicated by means of the diagram and notes following.

See diagram page 104.

In the field, the factors given will change according to existing conditions—usually requiring a longer time. The student should bear in mind that the attack is not always launched at the earliest possible time. The situation may be such that tactical reasons will cause the attack to be made later.

Except as noted, the method of calculation given may also be used to determine the earliest time that a position may be occupied for defense.

1. Visualize the formation of the force on the line of departure, by battalions. Time may be saved by sending leading elements to exterior flanks, to equalize marching-time.

2. Determine the location en route in the column (or in reserve or elsewhere) of the front-line battalion farthest from its deployment location.

3. Trace the movement of this battalion to its location on the line of departure as follows:

a. By road, to the limit of the enemy's effective medium-artillery fire, if available; if medium-artillery fire is not available to the enemy, to the limit of effective light-artillery fire. This movement is calculated at the road-rate.

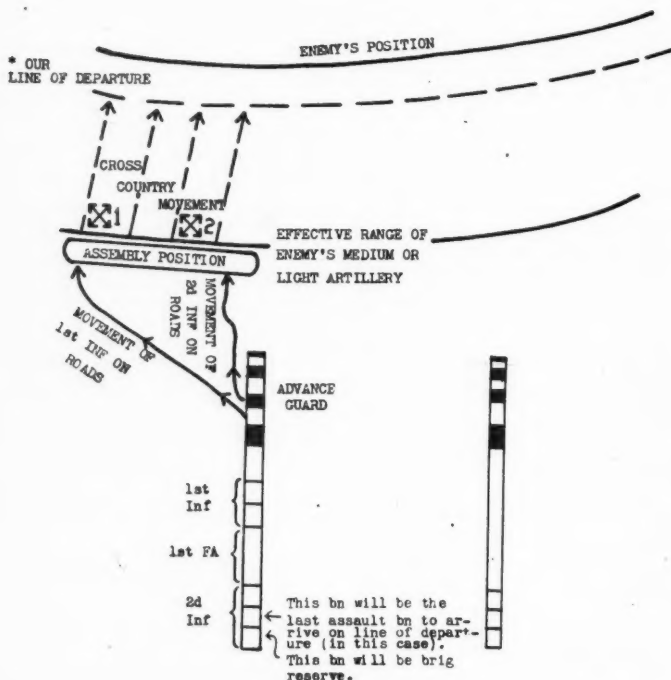
b. Thence across country, by the logical covered route, at the cross-country rate, to its location on the line of departure.

c. Add a half-hour for the infantry to issue extra ammunition (not applicable to the defense).

d. Add a half-hour for reconnaissance and orders of infantry company and lower-unit commanders (not applicable to the defense).

4. Compare with the time required to issue oral orders for the attack ($3\frac{1}{2}$ hours for division; $2\frac{1}{2}$ for brigade; $1\frac{1}{2}$ for regiment). The longer of the two time-elements governs. Care must be taken in comparing time required for deployment and that for issue and distribution of orders, to start with the correct time in each case. In a meeting engagement, development will usually begin some time before the attack orders are issued.

CALCULATION OF EARLIEST TIME OF ATTACK (Not to Scale)



5. Check to see that the elements other than the infantry can get into the desired attack positions in time, and to see, if enemy covering forces must be driven back, where the attacker's covering forces can gain the line of departure by the time when the last front-line battalion can arrive there. If not, add the necessary time. (Not applicable to the defense.)

Tactics and Technique—Infantry (Tanks)*

I

1. WHAT.—a. *Definition*.—The tank is a self-propelled armored tractor.

b. *Types*.—(1) Classification by weight:

Light tank: capable of transportation by truck; up to about eight tons.

Medium tank: not transportable by truck, but capable of using usual highway bridges; 8 to 25 tons (approximate limits).

Heavy tank: too heavy for usual highway bridges without reinforcement; over 25 tons.

(For mechanical characteristics and road space, see current *Reference Data*.)

(2) Classification by speed: slow and fast (see current *Reference Data*).

(3) Classification by organic assignment:

Division (infantry and cavalry).

GHQ reserve: includes variable numbers of tanks. Organized into regiments. See *Tables of Organization*.

(4) Classification by basic mission (for a more extended treatment, see *Infantry Field Manual, Volume II (Tank Units), Chapter 5, Section I*).

(a) *Leading tanks*.—To break through or go around the hostile position, in order to disrupt the enemy's defensive system in its rear areas. They attack artillery, reserves, communications, command posts. They cooperate with cavalry (horse or mechanized) and with exploiting tanks.

(b) *Accompanying tanks*.—Tanks to render close cooperative assistance to the foot-troops.

(c) *Exploiting tanks*.—Tanks held in reserve initially, to exploit success.

2. WHY.—The tank arose through the need of moving protected power to locations where it can deal effectively with hostile automatic arms.

3. WHERE AND WHEN.—a. *Powers*.—Vary with characteristics of movement (speed, mechanical durability, ability to pass obstacles), protection (mobility, ability to utilize cover, armor), and combat power (shock or crushing power, and armament). In general, the tank is the most effective existing weapon against small-arms fire (including machine guns employing small-arms ammunition).

b. *Limitations*.—(1) *Mechanical* [see current *Reference Data, especially Infantry Field Manual, Volume II (Tank Units), pages 2-7*].—The tank is primarily an offensive weapon. It can, in general, hold ground only by offensive action.

(2) *Imposed by hostile combat power*.—The light, mobile, quick-firing cannon is the principal enemy of the tank. A direct hit puts it out of action. Large-caliber machine-gun bullets may disable it. Its tracks are particularly vulnerable. Mines may also disable it.

(3) *Imposed by terrain: Includes following obstacles:*

Tank-traps (pits; deep shell-holes with perpendicular sides; small parallel slits which may trap the tracks and so cause the tank to "belly").

Tree stumps and big rocks (cause "bellying").

Deep mud; wide, deep trenches; extremely steep slopes.

Thick woods including trees too strong to be pressed down, and with intervals narrower than the width of the tank.

Barricades in towns.

Water deep enough to affect the carbureter (except for amphibious tanks).

4. How.—a. *Underlying principle*.—The effective use of tanks calls for unity of effort, and, as for any other weapon, varies with their ob-

*Reference Matter, 1933-1934.

jective, movement, security, mass (intensity of combat power), and *control*. As a general guide, they should therefore be employed to further the basic plan of maneuver (unity of effort), their mass being employed in the priority (1) decisive effort (including reserves), (2) secondary efforts, the latter in the priority determined by the degree of assistance they give the decisive effort, *providing that the ground be suitable*.

b. Fundamentals of employment.—(1) *Principles.*—(a) *Control* (by commanders charged with responsibility for success: leading and exploiting tanks, by division, corps, or army; accompanying, down to infantry battalions).

(b) *Objective* (to insure the result desired).

(c) *Movement* (suitable ground).

(d) *Security* (provision for counterbattery fires, protective artillery fires, aviation support, *smoke*; proper delimitation of command areas).

(e) *Mass*: against hostile weakness, to gain decision.

c. Leading tanks.—(1) *Desirable characteristics.*—Relatively great mobility (including ability to surmount obstacles); relatively great fire power; relatively great protection (armor and speed).

(2) *Control.*—Under control of higher commanders: division, and— for large forces—usually corps and army. Coordination with aviation and artillery important. Cross line of departure within time limits fixed in orders. On completion of missions, move to assembly positions.

(3) *Objectives.*—Enemy rear area. Often must first break through his battle position. Supported by artillery and aviation, especially with *smoke*.

(4) *Formation.*—Depth, according to situation (example, for regiment: line of battalions, in line of companies, in column of platoons; more front can be covered by attacking with two platoons of a company in assault, one in reserve).

d. Accompanying tanks.—(1) *Desirable characteristics.*—At least average mobility and fire-power; relatively great protection (armor). Usual allotment of light tanks will not exceed one platoon per infantry battalion; control by infantry battalion. Where heavy or medium tanks are used as accompanying tanks, usual allotment is one company to a division; control under echelons higher than the infantry battalion.

e. Exploiting tanks.—Desirable characteristics: Relatively great mobility (speed); at least average fire-power and average protection. Utilized to attack important enemy reserves and neutralize hostile reaction.

5. TYPES OF TANKS IN INFANTRY DIVISION.—*a. Light slow.*—(1) Organic complement, one company of three platoons.

(2) May receive reinforcing tanks from GHQ reserve: maximum probably one battalion of three companies, totalling nine platoons; aggregate then 12 platoons, one per infantry battalion.

b. Light fast.—From GHQ reserve; maximum light slow and fast available to division will probably not exceed one platoon per infantry battalion.

c. Medium fast.—From GHQ reserve; maximum fast tanks made available will probably rarely exceed a company per infantry division.

d. Heavy slow.—As for medium fast.

6. DIVISION TANKS ON MARCH (ADVANCE).—*a. Light slow.*—(1) *Objective.*—To assist foot troops to gain their objective. Rarely used as other than accompanying tanks.

(2) *Mass.*—Employed to further mission of division (purpose for which march is made). Attachment to flank guards must be justified by probability of offensive action and by factors governing any detachment.

(3) *Movement.*—Usually on trucks (except for short distances), to avoid mechanical deterioration. Therefore separated from tractor, animal, and foot elements. By bounds. Avoid muddy or high-crowned roads. Of practicable routes, select that leading to area of probable employment on conclusion of march. If division to attack, tanks on trucks

should usually precede motors of medium artillery (owing to time element); if to defend, follow. If roads very bad, may have to leave these tanks in rear to follow by bounds later. Reinforcing elements may come in by rail.

(4) *Security*.—Move in main columns. Rarely with advance guards (because slow tanks on trucks present good targets to enemy artillery).

b. *Light fast or medium fast tanks*.—(1) *Objective*.—As for light slow.

(2) *Mass*.—As for light slow. Rapid movement may justify more frequent detachments. If enemy has fast mechanized elements, and we lack mechanized cavalry of sufficient strength, may utilize fast tanks in lieu of cavalry, or to reinforce it. See security, below.

(3) *Movement*.—Fast tanks may move under own power; light fast may move on trucks, in which case same limitations apply to light slow. Movement is by bounds, separated from elements of lower march-rate, as for light slow tanks on trucks.

(4) *Security*.—Moving under own power, fast tanks provide own security. Security of division may require use of fast tanks on cavalry missions, as noted under movement above.

7. DIVISION TANKS IN DEVELOPMENT.—a. *Development for coordinated attack in a meeting engagement*.—Tanks usually sent to assembly position(s), conforming to following:

Objective: convenient to locality of probable employment.

Mass: distribution of tanks in assembly positions (if more than one such position), according to probable employment (see attack). Attached to brigades if probable employment can be foreseen at the time.

Movement: assembly position(s) convenient to present location of tanks (in column; consider routes) and with practicable routes forward to probable area of employment. Well forward. With hard standings. Tanks on trucks will not detruck here if it is practicable to detruck farther forward.

Security: beyond effective range of enemy light and medium artillery. Cover (town, woods, reverse slope).

b. *Development for piece-meal attack*.—Usually attached to brigades, or committed under division control.

c. *Development for defense; position in readiness*.—In assembly position, as above, under division control.

d. *Development for a deliberate attack*.—(1) For example, of a well-organized position or of a defensive zone, where one or more nights are available for preparations. Movement is by a series of stages, according to the time available, from *position* to *position*. Tanks come up by water (all types); rail (all types); truck (light tanks); or own power (medium and light fast tanks).

e. *Examples of order for development*.—(1) *In developing march columns*.—The 1st Tank Company will move to an assembly position in the vicinity of.... (Or:) The 1st Tank Company moving via (route) to (locality), will be attached to the Brigade on arrival.

(2) *In developing for deliberate attacks*.—Usually covered by appropriate part of march table.

8. TANK MOVEMENTS AND POSITIONS.—a. *Positions*.—(1) *General characteristics of tank positions*.—[For a more extended treatment, see *Infantry Field Manual*, Volume II (Tank Units), Chapter 5, Sections III, IV, and V.]

Mass, movement, and control: conform to tactical requirements.

Movement: conform to mechanical and supply requirements.

Security: afforded security from enemy observation and fire.

(2) *Examples*.—Woods, towns; open fields, with camouflage.

(3) *Types*.

Entraining and detraining points

Parks

Intermediate positions

Points of deployment

Assault positions

Line of departure (included here as a tank "position," for convenience of discussion)

Assembly positions (rallying points)

(4) *Entraining and detraining points*.—Need of heavy equipment.

(5) *Park*.—Home of tank unit in field. For large forces, established by army or corps. Base for administration, supply, maintenance. Not much over two (2) hours from detraining point; location convenient to locality where tanks will fight; on a satisfactory road-net from detraining points forward; beyond effective range of hostile light and medium artillery; liberal amount of space; good overhead cover; firm ground for motors; adequate water. Large centralized parks facilitate supply and maintenance: for example, one per corps for all tanks operating on its front; priority of standings given to heavier equipment.

(6) *Intermediate position*.—Place of concealment, between parks and assault positions. Make final preparations here for combat: reconnaissance, planning, supply, cooperation with other arms, dropping excess baggage. All transportation except combat tanks remains in or returns to parks. Intermediate position usually ceases to exist when the attack is launched. Occupied during part of night preceding attack, or for one or more days. Light types may not require intermediate position; or time may prevent its use, as in counterattack. Usually three to five (3 to 5) miles from line of departure. Usually one intermediate position for accompanying tanks of each division, and for each battalion of leading tanks. Closer to front than parks; so need defilade or better cover. Otherwise characteristics same.

(7) *Points of deployment*.—Where battalions, companies, and platoons break up to proceed to assault positions. Location such as to avoid enemy fire and aerial observation at night. Central to zone of action. Battalion point, about a mile from line of departure; corresponds to detrucking point of organic light tank company of division in attack in a meeting engagement. Refill here with gas, oil, water.

(8) *Assault position*.—Where tank platoon or other unit awaits proper time to cross line of departure. Concealment, defilade, route forward for each tank. Close in rear line of departure.

(9) *Line of departure*.—Line which leading elements are to cross at the given hour of attack; a coordinating line. Leading tanks cross it first, then accompanying tanks usually followed by foot-troops. Tank line of departure may be in rear of general line of departure, to get better cover or better coordination.

(10) *Assembly positions*.—Rallying points to which tanks move on completion of any mission. Located so as (1) to facilitate next movement contemplated (on further objectives or to the rear), (2) to utilize available protection (cover; other troops, where present), and (3) to insure effective control by higher command.

b. *Movement*. [See *Infantry Field Manual*, Vol. II (Tanks) Chapter

4.](a) *Rail*.—Secrecy requires that tanks be moved in and detrained during darkness, and that no sign of their presence be given in daylight. By daylight tanks must be in parks or intermediate positions established beforehand. Tanks detrain and move in small groups or by single vehicles to park; road must be reserved; no cross-traffic permissible. See current *Reference Data* for trains needed, and for time needed to unload. Add time to reach park (not much over two hours). No trains should be brought in so late as to prevent unloading and reaching park by daylight.

(b) *Truck*.—Light tanks. Into parks under cover of darkness. Convoys must not cross road: heavy-tank detraining point—heavy-tank park. Move without lights in forward area. Speeds: see current *Reference Data*.

9. DIVISION TANKS IN ATTACK.—*a. Basic considerations*.—Movement of controlled and protected mass to gain division objective. Priorities: (1) decisive effort including reserves, (2) secondary efforts, in the priority in which they assist decisive effort, provided ground is suitable.

b. Light slow tanks.—(1) *General*.—Employed as accompanying tanks; usual allotment, one platoon per infantry battalion.

(2) *Allotment*.—(a) Based on:

Objective of division.

Movement thereto: practicable routes for tanks (absence of obstacles).

Mass: estimate the strength of hostile forces that will oppose the movement (include reserves), and the time and place of contact therewith. Determine when and where the *decisive phase* of the action will occur; *that is the place to employ the tank combat power*. Set up a priority (1, 2, 3, etc.) as to infantry-battalion command areas where tanks should be employed.

Security: consider whether enemy antitank dispositions point to any change in this priority. Adjust priority. Consider whether the security of the decisive effort of the division calls for tank strength on the *flanks* of the decisive effort, rather than *with* it. Readjust priorities.

(b) Division allots to brigades, in such a manner as to favor the decisive effort. The division commander must visualize his maneuver in terms of battalions, and determine on a priority, which will in general be as follows: (1) assault battalions of decisive maneuver, (2) regimental reserves of same, (3) brigade reserves of same, (4) division reserve, (5) secondary effort: *always providing* that the battalions in question will probably require tanks to deal with hostile holding forces or reserves, and also that the ground is suitable. This priority will vary in detail according to the situation.

(3) *Examples of orders*.—(a) *When organic tanks, only, present*.—The 1st Tank Company is attached to the Brigade. (Or: Two platoons, 1st Tank Company, are attached to the Brigade; one platoon is attached to the Brigade. The company (less three platoons) will await orders under division control at (usually initial assembly position).

(b) *When reinforcing tanks present (for example: battalion, less one company)*.—The 1st Tank Company (usually attached to decisive attack, as presumably better trained in operating with foot troops of division) and Company A, 901st Infantry (Tanks, light slow) are attached to the Brigade. Two platoons of Company B, 901st Infantry (Tanks) are attached to the Brigade; one platoon is attached to the division reserve. The 1st Battalion, 901st Infantry (Tanks) (less detachments) will await orders under division control at (usually park).

(c) *When units split*.—When companies are split, part going to one subordinate unit and part to another, company headquarters remains under control next higher unit, to facilitate supply and control.

(4) *Detrucking area*.—In attack in a meeting engagement, tanks move from initial assembly position(s) to detrucking area(s) farther forward. This detrucking area corresponds to battalion point of deployment (see above). Should have cover from fire and observation, hard standings, good routes forward across country to assault positions, be central to zone of action of unit concerned, and as near to the line of departure as security will permit.

c. Light and medium fast tanks.—May be employed as accompanying tanks. May be employed in whole or part, independently or attached to cavalry, as a mechanized force under division control, either as leading or exploiting tanks. Examples of methods of employment may be as follows: (1) Tanks, under division control, with or without cavalry, may

attack on one flank, drawing hostile reserves away from the other flank where foot troops are attacking; (2) foot troops may attack on one flank to attract the hostile reserves, while the tanks attack the other flank; (3) tanks may lead the main attack; (4) tanks may extend the flanking maneuver of the foot troops. Conditions permitting, the most decisive results are obtained by an encirclement of one flank, combined with a distraction on the other, both directed at objectives the gaining of which will materially disrupt the defense. The employment may be influenced by the necessity of providing security for the foot-troops.

10. DIVISION TANKS IN DEFENSE.—Tanks are utilized for counter-attack. They usually move to a covered locality near the division reserve, in order to be available therewith. Hard standings desirable. Tanks detruck. The tank units are not attached, initially, to the division reserve, but are held in reserve, platoons being sent out as needed, for attachment to reserves of lower echelons for counterattack; finally, the remaining tank elements are utilized with the division reserve when committed for counterattack. Tank elements may be disposed to protect flanks and rear from hostile mechanized forces (especially hostile fast tanks).

11. TANKS IN SPECIAL OPERATIONS.—*a. Pursuits.*—Fast tanks with encircling forces (may constitute encircling force). Slow tanks with direct pressure.

b. Withdrawals.—Utilized under division control or by attachment to lower units, to assist withdrawal, principally by flanking attacks, repeating the operation on one position after another, as necessary. Smoke assists in gaining surprise (tanks may use smoke candles). Use of tanks at night limited by conditions of visibility.

c. Rear guards.—As for withdrawals. Tanks so used usually attached to rear guards. There is danger that slow tanks so employed may be lost; hence relative values of using them or conserving them must be carefully weighed.

d. Repelling counterattacks.—Preferable to employ tanks from a flank. Especially valuable against hostile tanks.

e. Reconnaissance and counterreconnaissance.—Fast tanks only. Conservation of tanks will probably call for sparing use. Such employment may be necessary for security, as when enemy has mechanized cavalry and we lack it.

II

1. CHARACTERISTICS OF TANKS.—*a. 6-ton, Model 1917.*

(1) Detailed data: see *Infantry Field Manual*, Volume II (Tank Units), page 2.

(2) Moving under its own power, this light tank cannot cover long distances without great loss of mechanical efficiency. A march of ten (10) miles will necessitate several hours of overhauling if the tank is to go into action with maximum mechanical efficiency. For these reasons the light tank is transported by truck as near to the scene of intended employment as the tactical situation will permit. Where the tactical situation makes it necessary to detruck the tank at a considerable distance from the scene of action, ample time for the movement forward and the consequent overhauling must be allowed.

b. Light, fast tanks (undergoing development).—(1) *Light tank T 1 E 4.*
Crew: 2-4.

Armament: 1 37-mm. semi-automatic gun and 1 caliber-.30 machine gun in 1 mount.

Armor: .25-.625 inch.

Maximum speed: 20 miles per hour.

Weight: 8.6 tons.

Obstacle-crossing ability: trench 7 feet wide; 30-degree slope.

Fuel capacity: 50 gallons.

(2) *Light tank (Christie, Model 1932).*

Crew: 3.

Armament: probably 1 cannon and 1 or more machine guns.

Aarmor: .375-.5 inch.

Speeds: 120 miles per hour on wheels.

60 miles per hour on tracks.

Weight: 5 tons.

Obstacle-crossing ability: jumps trench 12 feet wide.

Fuel capacity: 89 gallons.

NOTE: It will be assumed that all light, fast tanks used in instruction here, unless otherwise indicated in the problem, have the characteristics of the light tank T 1 E 4, above.

c. Medium tanks (undergoing development).—(1) Medium T 2 (Cunningham).

Crew: 4.

Armament: 1 47-mm. gun and 1 caliber-.50 machine gun in 1 mount in turret; 1 37-mm. gun and 1 caliber-.30 machine gun in 1 mount in hull.

Aarmor: .25-.875 inch.

Speed: Maximum, 25 miles per hour.

Weight: 15 tons.

Fuel distance: 90 miles; capacity: 94 gallons.

(2) *Convertible Medium T 3 (Christie).*

Crew: 2.

Armament: 1 37-mm. and 1 caliber-.30 in 1 mount.

Aarmor: .25-.625 inch.

Speed: Maximum 70 miles per hour on wheels; 40, on tracks.

Weight: 10.5 tons.

Obstacle-crossing ability: trench 7 feet wide; 35-degree slope.

Fuel distance: 250 miles on wheels.

170 miles on tracks.

NOTE: It will be assumed that all medium tanks used for instruction here, unless otherwise indicated in the problem, have the characteristics of the Medium T 2, above.

d. Heavy tanks (Mark VIII).—See Infantry Field Manual, Volume II (Tank Units), page 5.

2. CLASSIFICATION BY SPEED.—See *Infantry Field Manual, Volume II (Tank Units), pages 1-2.*

3. SPEED OF TANKS.—For road and cross-country speeds of light, slow, and heavy tanks as used in problems, see *Reference Data, C. & G.S.S., page 9.*

4. OBSTACLES.—The use of the 6-ton tank, model 1917, is limited by the following obstacles:

a. Tank traps and mines.

b. Tree stumps and big rocks.

c. Thick woods where roads or lanes are less than 8 feet wide.

d. Deep shell-holes, having perpendicular sides.

e. Water over 2 feet deep.

f. Very deep mud; marshes.

g. Trenches over 5 feet wide.

h. Extremely steep slopes.

i. Barricades in towns.

5. OBSERVATION AND FIRE.—a. Observation from the 6-ton, model 1917 tank is limited by the fact that it must be obtained through narrow slits, and from a vehicle that is pitching and tossing on rough ground.

This limitation must be borne in mind in assigning tasks to individual tanks.

b. (1) The tanks armed with machine guns are effective against an enemy in open terrain. They keep the enemy down in his trenches or shell-holes, thus permitting friendly troops to advance with fewer casualties.

(2) The tanks armed with the 37-mm. guns are effective against definitely located machine guns, and give good results against troops that can be taken under enfilade fire, especially if case-shot be used.

(3) Fire is usually opened only on arrival at an effective range. On account of the difficulties inherent in firing accurately from tanks, fire is delivered at ranges considerably less than those usually effective for the weapons employed.

(4) Fire is generally delivered from tanks while in motion and when they are ahead of the riflemen. They should rarely fire over the heads of supported troops. Tanks ordinarily fire when they are ahead of or on the flanks of rifle units.

6. FRONTAGES, LEADING TANKS.

Platoon: 400 to 1000 yards.

Battalion: 3000 to 6000 yards.

7. RAILWAY TRAINS REQUIRED TO MOVE TANK UNITS.—See *Reference Data*, C. & G.S.S., page 19.

8. UNLOADING TIME, MOVEMENT BY RAIL.—To unload a railway train carrying tanks requires $1\frac{1}{2}$ hours.

Section 4
BOOK REVIEWS

CONTENTS

	Page
Dewey: Decimal Clasification and Relativ Index. Edition 18.....	113
Dulles: America in the Pacific	114
Jackson: Europe since the War	114
Jones, Rarey & Icks: The Fighting Tanks Since 1916	115
Kearsey: A Study of the Strategy and Tactics of the Russo-Japanese War . . . Illustrating the Principles of War	115
v. Königsdorfer: Beispiele von Fluszübergangen aus den Bewegungskämpfen der ersten Weltkriegsjahre	116
Livingston: Hot Air in Cold Blood	116
Lumley: The Propaganda Menace	117
"Notrofe": Cavalry Taught by Experience	117
Osterreich-Ungarns letzter krieg 1914-1918. Vierter Band	118
Taylor: Gouverneur Kemble Warren	119

Dewey, Melvil.—**Decimal Clasification and Relativ Index.** Edition 13, revized and enlarjd by Dorkas Fellows, Editor. 1932...025.4

Reviewed by Major A. Vollmer

This, the memorial edition, embodiment of the system of classification in use by most libraries in the United States, has appeared less than two years after the author's death, the first edition since that of 1926. The work is even yet unfinished, as many classes are still merely in outline. The changes in this edition (now conveniently published in one volume containing both schedules and index) are mainly expansions for the literature of a few specific fields. Psychology, covering class numbers 130 and 150, expands the present lines of thought on the basic number 159.9. Here the number of decimals make it unwieldy, so, e.g., "Abnormal Children" bearing number 159.92276, and "intelligence tests" bearing number 159.92822. Some divisions of Commerce and Communication have been developed in detail, while Biology, Religion, Botany, Accounting, Radio, Advertising, Aeronautics, Fine Arts, and Automobiles have been extensively expanded, and Shorthand has been thoroughly revised. The simplified spelling is retained.

The Dewey Decimal system is still in effect for the non-military material in the Command and General Staff School Library and a consideration of its expansion is therefore always pertinent both for Library personnel and patrons. The editions are sometimes made use of by officers in classifying their own libraries.

Up to July 1929 the Dewey Decimal system with interpolations was officially in effect in the Command and General Staff School Library for both military and non-military material. At that time a separate system was created locally for the military. This is still in effect. It is sometimes called the "M" system. Other outstanding systems of military classification are the military schedules of the Library of Congress classification, the modification of the Dewey by the "Classification décimale universelle," and the U.S. War Department system of 1912.

It is therefore now merely of academic interest to the Command and General Staff School Library (though of possible value to private individuals who wish to classify their libraries by the Dewey system), to find that its 13th edition has developed a book number scheme for the various forms of military organization in the World War, i.e., cavalry, infantry, engineers, etc., on the plan of that for the Civil War (973.744-.749).

Dulles, Foster Rhea.—**America in the Pacific.** A century of expansion. 1932.....990.0

CONTENTS: Introduction. Westward lies the course of empire; Cape Horn around; The overland trails; 'Manifest destiny'; Perry forecasts the future; Seward's folly; The Navy discovers Samoa; An entangling venture; Early contacts with Hawaii; Toward annexation; Imperialism's first fruit; Dewey captures Manila; McKinley's sense of duty; Imperialism triumphant. Bibliographical notes; Index.

Now and again there comes a book of permanent value in a particular field, which assumes an indisputable place in any bibliography.

This volume carries an austere countenance. It is history, such history as satisfies the technical historians, even though they cannot write that kind themselves. But its authority detracts not the least from its readability.

The present volume carries the narrative only to the end of the last century. Various nations have challenged the westward sweep of American influence. At last Japan has challenged the positions we have taken in Asia and the Western Pacific. "Time alone holds the secret of its final solution."

"Manifest Destiny" is one of those emotion-arousing slogans which have played a large part in our public sentimentalizing. It is difficult to realize how much it was a part of the political faith of our fathers. If Mr. Dulles is right, this was an early national determination to win through the continent and the Pacific to a satisfactory share in the rich rewards of the China trade, all a part of this momentous urge to connect the eastern shore of America with the eastern shore of Asia.

The Louisiana Purchase, the annexation of Texas, and the Mexican War carried us to the Pacific coast. But the momentum was not to be checked at the water's edge. Perry opened Japan with the help of armed vessels of the Navy. Hawaii fell into our basket on several occasions. The Spanish War threw in the Philippines for good measure.

Each one of these steps is described with fairness, accuracy, and authority. Through them all runs that dogged determination to be a "power" in the Pacific.

And yet, opposition to expansion has in almost every instance been only less powerful than its advocacy. Time and again opportunities were rejected. Often the ultimate triumph was due to the outstanding vision of one man. Thus Polk as President is the "hero" of the Mexican conquest; Seward's "folly" as Secretary of State brought us Alaska; and Theodore Roosevelt as Assistant Secretary of the Navy receives the credit for having Dewey ready to seize the Philippines.

Our present division of opinion over the independence of the Philippines or over the role which we should play in the Sino-Japanese imbroglio is a new phenomenon in our national life. And, if history is to be taken as the criterion, the chances appear favorable to the ultimate triumph of the expansionist spirit. [C.A.W.]

Jackson, J. Hampden.—**Europe since the War.** A sketch of political development, 1918-1932. 1933.....M 9403-C5-A

CONTENTS: Map; Introduction. The breakdown of war; The peace treaties; Lenin and the U.S.S.R.; Mussolini and the New Italy; The German Republic; France; Central Europe; Great Britain; Spain; The Five Year Plan; The breakdown of peace; Political ideals in 1932. Appendices: Time-Chart, 1917-1932.

Reviewed by Major G.S. Brownell

As stated in the introduction: "This book is an attempt to give in the simplest terms and the shortest compass possible an outline of political developments in Europe between 1918 and 1932." This purpose is accomplished in a brief but interesting sketch of 140 pages which summarizes the principal political developments in various European countries since the World War, together with the author's (English) opinion of the general causes and effects thereof.

This book should be of special interest to anyone who has been only a casual reader of recent political developments in Europe as an opportunity to review and clarify the relation between such developments.

Jones, Maj. R.E., Rarey, Capt. G.H., & Icks, 1st Lieut. R.J.—**The Fighting Tanks Since 1916.** 1933.....M 405-A

CONTENTS: Foreword; The authors; Preface. Introduction; Tank combat history—British; Tank combat history—French; Tank combat history—German; Tank combat history—American; Tanks of all countries; Tanks possessed by the various countries; Powers and limitations of tanks—Considerations governing their employment; Tank types and uses; Tank design; Tank equipment and accessories; Miscellaneous vehicles; Tank armament and gunnery; Obstacles and defense against tanks; Tank organization; Some tank combat principles; Cooperation between tanks and other elements; Communication and control; Concealment and camouflage; Landings and stream crossings; Tank supply, maintenance and salvage; Outstanding conclusions; Bibliography; Index.

Reviewed by Major E.S. Johnston

This excellent book includes a history of tank technical and tactical developments.

It covers the combat history of the tank by brief descriptions of each important occasion on which tanks were used in the World War by the British, French, Germans, and Americans, and in Morocco (1925) and Syria (1920) by the French. The reader can very quickly discover the essential facts and lessons involved in each case.

The authors discuss the characteristics of all the important models of tanks produced, and these descriptions are splendidly illustrated.

The book contains very interesting discussions, also, of tank tactics and antitank defense, of tank organization among all the major Powers, and of tank logistics.

The volume closes with a bibliography and a very well prepared index.

The names of Major Jones and Captain Rarey are of course familiar to all readers of our service literature on infantry subjects, especially tanks. The third contributor, Lieutenant Icks, is a reserve officer. The authors are to be congratulated upon their product.

General Douglas MacArthur, Chief of Staff, in the Foreword of this volume, recommends it as furnishing a "solid point of departure from which the individual can go forward with the certainty that he possesses full and accurate knowledge of the facts (of mechanization) as they exist today."

The book should be of interest to all officers and to all sections of this School, but especially to the Command and G-3 Sections, and to the Infantry and Cavalry Subsections.

Kearsey, Lieut.-Colonel A.—**A study of the strategy and tactics of the Russo-Japanese War, 1904 up to and including the Battle of Liao Yang, illustrating the Principles of War.** London, 1928.....M 952-066-J3

Reviewed by Major W.H. Wilbur

A book of 77 pages consisting of a diary of events and very brief accounts of some of the engagements in the Russo-Japanese War up to the Battle of Liao Yang. The diary of events is valuable in an informative way. The accounts of battles are very general and of little value to the

military student. The maps are very poor and show only a portion of the places mentioned in the text. The print is too small.

In general, the treatment is inferior to battle studies made locally.

v. Königsdorfer, Generalmajor.—**Beispiele von Fluszübergängen aus den Bewegungskämpfen der ersten Weltkriegsjahre.** [Examples of river crossings during the mobile warfare of the first years of the World War.] Berlin, 1933.....M 9403-H3-M

CONTENTS: Geleitwort; Vorwort. 1. Der Maasübergang der 3. Armee im August 1914; 2. Die Kämpfe der 4. Armee um die Maas im August 1914; 3. Der Maasübergang der 5. Armee im August/September 1914; Das Überschreiten des Oisetales während der Schlacht bei St. Quentin 1914; 5. Fluszübergänge bei der Belagerung von Antwerpen; 6. Der Yser-Übergang der 4. Armee im Oktober 1914; 7. Der Übergangsversuch des III. Res.-K. über die unter Bzura im Dezember 1914; 8. Der Narew-Übergang der 12. Armee Gallwitz im Juli/August 1914; 9. Der Übergang der Südarmerie über den Dniester im Juni 1915; 10. Die Weichselübergänge 1915 der Armeeabteilung Woyrsch und der 9. Armee bei Rzyczywol und Warschau.

[Introduction; Preface. The crossing of the Meuse by the Third Army in August 1914; The battles for the possession of the Meuse by the Fourth Army in August 1914; The crossing of the Meuse by the Fifth Army in August-September 1914; The crossing of the Oise during the battle of San Quentin in 1914; River crossings during the siege of Antwerp; The crossing of the Yser by the Fourth Army in October 1914; The attempted crossing of the lower Bzura by the III Res. Corps in December 1914; The crossing of the Niemen by the Twelfth Army Gallwitz in July-August 1914; The crossing of the Dniester by the South Army in June 1915; The crossing of the Vistula in 1915 by part of the Army Woyrsch and the Ninth Army at Rzyczywol' and Warsaw.]

Reviewed by Captain Fred During

History teaches us that the struggle for the possession of river lines during a war has been at all times of the greatest importance. We find numerous crossings or attempted crossings during the World War. This booklet covers river crossings during mobile operations on the Western and Eastern fronts only. Each crossing is considered from an operative, tactical and technical point of view. A very interesting and instructive booklet.

Livingston, Brigadier-General Guy.—**Hot Air in Cold Blood.** London, 1933.....M 409-C.42-C

Reviewed by Major E.S. Johnston

The author, unable (for financial reasons) to realize his early ambition to enter the regular army or navy, served in South Africa as a volunteer, and then entered business, becoming identified with the developing airplane industry. An enthusiastic Territorial officer, he served at Loos, then was evacuated for wounds, and was assigned to the British air arm, which was experiencing a great expansion.

He served as Chief of Staff of the (Air) Training Division and as a Department Head in the War Office and in the Air Ministry. The first Air Minister, on relief of Trenchard as Air Chief of Staff, tendered him that appointment, which he refused, as he was only thirty-three years of age, was an emergency officer, and anticipated the hostility of the regular services.

The author spent the latter half of 1918 in the United States as an adviser to our Air Service. On return to England after the Armistice, he sought demobilization and re-entered business, where he has identified himself with Vickers and the British armament industry.

General Livingston has proved himself an entertaining writer. To the military reader, his experiences and views on a variety of professional matters are exceedingly interesting. His close contact with the American Air Service in Great Britain and in the United States makes his book particularly interesting to us. He strongly disapproved of the formation of the British Independent Air Force in France, on the ground that its missions could be as well performed by aviation under control of British GHQ in France, and that it removed from close cooperation with the BEF, air units which were badly needed therewith.

The book is of interest to all officers, and particularly to the Command and G-2 Sections and the Air Corps Subsection of this School.

Lumley, Frederick E.—**The propaganda menace.** 1933.....M 008-K

CONTENTS: Preface; The promotion of culture; Conceptions of propaganda in the past; The veiled propagandists; The methods of propagandists; The content of propaganda; Propaganda and industry; Propaganda and politics; Propaganda and war; Propaganda and patriotism; Propaganda and race; Propaganda and education; Propaganda and religion; The results-aspect of propaganda; The limitations on propaganda; Some suggestions as to remedies; Bibliography; Index.

Reviewed by 1st Lieutenant C.W. Clarke

The author, who is on the staff of Ohio State University, proceeds from the premise that propaganda, to all intents and purposes, is the most baneful influence working among men of all ages. According to Professor Lumley, there are only two general methods of influencing our fellowman; to wit, *physical force* and the *human symbol method*. It is this latter method with which this book deals.

In answer to the question why we should bother about applying pressure to "others," be they a group, a race, or a nation, and why we cannot let the other fellow grow up and do and live as he likes, Professor Lumley, himself, gives the answer: "We cannot do so without imperiling our own lives and welfare." This assumes that most of us, as the result of this pressure or propaganda, have come to regard ourselves and the groups to which we belong as superior, and, therefore, as having some inherent right to dominate. And further, we have come to assume that those whom we consider uncultured or *miscultured* are a perpetual menace to us in one or more ways, and that our own safety and well-being demands that these "aliens" be converted to our standards of living.

"The Propaganda Menace" contains little that is not already known to the student of propaganda or publicity, as Professor Lumley at times chooses to call it. In the chapter "Propaganda and Politics," the author's attack on the War Department for its efforts "to combat the growing pacifistic sentiment in the country" only serves to emphasize the fact that we are missing many splendid opportunities for publicizing the Army and keeping it constantly before the public. It is well known that there is an undercurrent of opposition to what is known as *publicity* among officers of the Army and it has been the experience of officers assigned to public relations duties that their most difficult task has been that of convincing our own people of the value and necessity of publicity.

In the chapter "Propaganda and Patriotism" Professor Lumley makes much of the controversy between Major General A.J. Bowley and Frederick J. Libby, Executive Secretary of the National Council for the Prevention of War, which began with General Bowley's address before the Chamber of Commerce Forum, Columbus, Ohio, March 7, 1924. He concludes that if the National Council for the Prevention of War, and Mr. Libby were of such character that "any loyal American citizen must of necessity look upon this subversive movement to overthrow this government . . . with suspicion to say the least" that "the Intelligence Department of our government would not fail to know all about what Mr. Libby was doing" and that "the name that we give to this stealthy campaign against Mr. Libby is *propaganda*."

There can be little doubt that the Army has in the past suffered from a lack of a well organized publicity bureau, or that there have been at times officers assigned to publicity work who lacked the knowledge or interest therein to be successful public relations officers. "The Propaganda Menace" is therefore well worth the reading time of any officer who is likely ever to be assigned to such duty.

"Notrofe."—**Cavalry taught by experience.** A forecast of cavalry under modern war conditions. London, 1910.....M 406-J1-A.42

CONTENTS: Introduction. Outline of the Campaign from August 1 to September 14, 1910: Operations of the 5th Cavalry Brigade. Attempt No. 1: Narrative; Events at Marn;

The Officers' Patrols towards Wellington; Comments. Attempt No. II: Narrative; Incidents of the Operations under Colonel B; Comments. Attempt No. III: Narrative; Colonel G's Detachment; Comments; The Mounted and Dismounted Action of Cavalry.

Reviewed by Major Pearson Menoher

The teaching of tactical principles is based on the idea of which "The Defense of Duffer's Drift" is founded. Three "Attempts" or narratives of events of a small self-contained cavalry force on reconnaissance and counterreconnaissance are worked out in detail, and each "Attempt" or possible solution of the situation is followed by comments on the solution.

Of general interest to Cavalry officers studying the tactical employment of a small cavalry force on a mission beyond supporting distance of other troops.

Osterreich-Ungarns letzter Krieg 1914-1918. Vierter Band.

[Austria-Hungary's last war, 1914-1918.] Vol. IV. Text and maps. Vienna, 1933. M 9403-E4-E.436

CONTENTS: Die Neujahrsschlacht 1916 gegen die Russen; Die Eroberung von Montenegro und von Nordalbanien; Österreich-Ungarns Heer vom Karpathenwinter bis zum Frühjahr 1916; Die drei Kriegstheater bis Mitte Mai 1916; Die Frühjahrsoffensive 1916 gegen Italien; Die Offensive der Russen im Sommer 1916.

Reviewed by Major A. Volmer

This fourth volume of the Austro-Hungarian General Staff work on the World War, 1914-1918, comprises the first third of the year 1916. It completes the consideration of the military situation at the end of the year by a short resumé. Then there is presented the New Year's battle of the Austro-Hungarian Seventh Army (Major General Pflanzer) in East Galicia and the Bukowina, which ended in a successful defensive. There follows the section: "The conquest of Montenegro and Albania," by the Third Army (General Kövesz, Infantry) from January 5 to March 18th. The next section is a masterly review of Austria-Hungary's Army from the winter in the Carpathians 1914-15 to spring 1916. The year 1915 had been begun by Austro-Hungary with low morale, shaken forces, and extensive casualties. Yet from that time on things improved—soon many divisions increased from 8,000 to 10,000 rifles, by May, 11,000, and 15,000 in the southwest. Casualties decreased since May 1915 from what they had been in the fall of 1914 and in the arduous winter in the Carpathians. Again there was an improvement in the proportion of prisoners and wounded, from that of 10 prisoners and 12 wounded to each 10 dead to that of 8 prisoners and 6 wounded to each 10 dead. The total attrition in 1915 in effectives (2,118,000) was serious. To replace these the National Defense law was changed and the Landsturm service raised 7 years to include all of 50 years of age and lowered 1 year to reach those of 18 years of age.

"The Three Theaters of War to the Middle of May 1916" is the title of the next part. By this is meant: the Southwest front in Tyrol, the East front, and the Balkans. In the Southwest the Fifth Army had to repel a renewed attack of the Italians from 11 to 16 March (the 5th battle of the Isonzo). Meanwhile preparations were under way for a great Austro-Hungarian spring offensive in south Tyrol, the plans for which Conrad had projected at the end of 1915.

A particularly difficult problem in General Staff technique was the movement of eleven Austro-Hungarian divisions on the double track west railroad (Vienna—Innsbruck), the Brenner railroad (Innsbruck—Franzensfeste) and the Pustertal railroad (Villich—Franzensfeste), the concentration of these forces in the narrow Etsch valley through the bottle neck of Trient, and finally their supply. To deceive the enemy all possible stratagems were set on foot which culminated in the diversion on the Isonzo and on the Kärntner front. These deceptions were successful in that Cadorna would not believe for a long time in the possibility of a

Section 5

LIBRARY BULLETIN

BOOKS ADDED TO THE LIBRARY SINCE SEPTEMBER 1933

- Adlow: **Napoleon's first Italian campaign.** 1933 [M 94405-J3-C]
- Agar: **The people's choice.** 1933 [973.0]
- Air annual of the **British Empire, 1933-34.** Vol. V. Edited by Squadron-Leader C.C. Burge. 1933 [M 409-C.42]
- Baumgarten-Crusius: **The Marne campaign 1914, Part I.** (Translation from the German by Capt. J.W. Janicki.) 1921 [M 9403-J.44:4N5.43]
- Beals: **The crime of Cuba.** 1933 [972.91]
- Belloc: **The tactics and strategy of the Great Duke of Marlborough.** 1933 [M 942-B92 (MA)]
- Bircher: **Die Schlacht bei Tannenberg als applikatorische kriegsspielübung in der Schweiz.** [The battle of Tannenberg as an applied war-game exercise in Switzerland.] 1931 [M 9403-J.47:4-R4]
- "Blackwood" tales from the outposts. X. Shikar; XI, From strange places; XII, In lighter vein. 1933 [823]
- Boetticher: **Count Alfred Schlieffen—His career and achievement.** (Translation from the German.) 1933 [M 943-B92 (SC)]
- Brown book of the Hitler terror and the burning of the Reichstag.** (Prepared by the World Committee for the victims of German Fascism, with an introduction by Lord Marley.) 1933 [943-A]
- Cambray: **The game of politics.** A study of the principles of British political strategy. 1932 [329.942]
- Cambridge Ancient History.** Vol. IX: The Roman Republic, 133-44 B.C. Edited by S.A. Cook, F.E. Adcock, M.P. Charlesworth. 1932 [930-A]
- Cambridge History of the British Empire.** Vol. V: The Indian Empire 1858-1918, with chapters on the development of administration 1818-1858. Vol. VII: Part 1, Australia; Part 2, New Zealand. 1933 [942-A]
- Commerce, Dept. of. Bureau of Census: **Fifteenth decennial census of the United States: 1930.** Population. Vol. IV: Occupations—Reports by states. 1933 [310]
- Commerce, Dept. of. Bureau of Foreign & Domestic Commerce: **Statistical abstracts of the United States, 1932 and 1933.** 1933 [310]
- Corday: **The Paris Front.** An unpublished diary: 1914-1918. 1933 [M 9403-B4.44]
- Cumulative Book Index, 1928-1932.** 1933 [015.73]
- Davison: **The wells of Beersheba.** A light horse legend. 1933 [M 9403-J.56-P]
- Dening: **The Staff College examination lecture series.** 1933 [M 209-C.42-D4E]
- Dufais: **Das militärische Nachrichtenwesen.** Was muss der offizier anderer waffen von der Nachrichtentruppe wissen? [Signal communications. What should the officers of other arms know about signal communications?] 1932 [M 403-J.43]
- Federal Reporter, 2d series.** Vol. 66, September-November 1933. 1933 [345.41]
- "Gee Three": **Major General A's Paragraph 3.** (A comprehensive and authoritative guide and aid in the solution of map problems.) 1933 [M 506-A7-D3]
- Germany. Reichsarchiv: **The World War, 1914-1918.** Vol. II, The liberation of East Prussia. Second part, The operations in East Prussia under General von Prittwitz, Chapters 1-4. (Translation from the German.) 1933 [M 9403-E4-E.43-C]
- Gertsch: **Für die Maschinengewehrmee.** [An army of machine guns.] 1932 [M 404-H7]

- Goodspeed: **The short Bible.** An American translation. 1933 [220]
- Halyburton: **Shoot and be damned.** 1932 [M 9403-B4.73]
- Handbook of the N R A laws, regulations, codes.** (With supplement service) 1933 [973-A]
- Haushofer: **Wehr-Geopolitik.** Geographische Grundlagen einer Wehrkunde. [Geographic basis of military operations.] 1932 [M 910-A]
- Hittler: **My battle.** (Translation from the German by E.T.S. Dugdale.) 1933 [943-A]
- Hudson: **International legislation: A collection of the texts of multipartite international instruments of general interest.** Vol. I: 1919-1921; Vol. II: 1922-1924; Vol. III: 1925-1927; Vol. IV: 1928-1929. 1931 [M 007-G6]
- Institut International de Bibliographie: **Classification decimale universelle.** 1929 [025.45]
- Jackson: **Europe since the War.** A sketch of political development 1918-1932. 1933 [M 9403-C5-A]
- James: **Andrew Jackson: The border captain.** 1933 [M 973-B92 (JA)]
- Jones: **The fighting tanks since 1916.** 1933 [M 405-A]
- Kardel: **Der Westfrontfuhrer.** [Guide to the West Front.] 1932 [M 9403-J.44-A]
- Kassner: **Physiognomik.** [Physiognomy.] 1932 [138]
- Kawakami: **Manchouhuo: child of conflict.** 1933 [M 9518]
- Kearsey:
 A study of the strategy and tactics of the Peninsular campaign up to and including the battle of Salamanca, illustrating the principles of war. 1928 [M 94606-J3]
 A study of the strategy and tactics of the 1796 campaign, illustrating the principles of war. 1928 [M 94405-J3-C]
 A study of the strategy and tactics of the Russo-Japanese War, 1904, up to and including the battle of Liao Yang, illustrating the principles of war. 1928 [M 952-066-J3]
 Notes on the campaign in France 1914. From the beginning of hostilities until the end of the battle of the R. Aisne, including appreciations of situations and lessons to be learnt from each of the battles, and a diary of daily events, with sketch showing areas of concentration and the German advance. 1929 [M 9403-J.44:4]
- Königsdorfer:
 Beispiele von Fluszübergangen aus den Bewegungskämpfen der ersten Weltkriegsjahre. [Examples of river crossings during the mobile warfare of the first years of the World War.] 1933 [M 9403-H3-M]
 Beispiele von Sperren. [Examples of obstacles.] 1933 [M 503-D9]
- Kuhl: **The Marne campaign 1914.** (Translation from the German by Lt. C. de Wolski.) 1921 [M 9403-J.44:4N5.43]
- Lanrezac: **The French plan of campaign and the first month of the War.** (August 2—September 3, 1914.) (Translation from the French by Capt. Amico J. Barone, Res.) 1933 [M 9403-J.44-A.44]
- Lapp: **The first chapter of the New Deal.** 1933 [973-A]
- Leppa: **Das Gefecht bei Schaschintzi am 6. September 1914.** [The battle at Schaschintze, 6 September 1914.] 1930 [M 9403-J.49-S4]
- Liddell Hart: **The ghost of Napoleon.** 1933 [M 94405-N]
- Livingston: **Hot air in cold blood.** 1933 [M 409-C.42-C]
- Lloyd George: **The war memoirs of David Lloyd George.** Vols. I & II. 1933 [M 942-B92 (LL)]
- Lockhart: **British agent.** 1933 [M 942-B92 (LO)]
- Manteuffel: **Der Eskadron-Chef.** Ratgeber für die organisation des inneren Dienstes und für die Verwaltungsarbeit in der Eskadron. [Handbook for troop commanders.] 1932 [M 505-C1.43]
- Mexico. La Escuela Superior de Guerra: **Primer viaje de la Escuela Superior de Guerra en estudio de estrategia y tactica naval.** [Strategic (Staff) training, Mexican War College.] 1933 [M 209-C.72]

- Michel: **A meeting engagement—Monthyon.** The operations of the 55th Reserve Division (French), September 5 and 6, 1914. (Translation from the French by Major C.H. Cunningham.) 1933 [M 9403-J.44:4]
- Military Academy: **Official register of the officers and cadets, United States Military Academy, June 30, 1933.** 1933 [M 209-C.73-D3C-5D]
- Omond: **Parliament and the Army, 1642-1904.** 1933 [M 105-C.42-A]
- Osterreich-Ungarns letzter Krieg 1914-1918.** *Vierter Band: Das Kriegsjahr 1916.* (pages 481-745) [Austro-Hungary's last War 1914-1918. Vol. IV: The war year 1916.] 1933 [M 9403-E4-E.436]
- Pan American Union:
- American nation series:** Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela, Puerto Rico. 1932 [*980]
 - American city series:** Asuncion, Barranquilla, Bogota, Buenos Aires, Caracas, Guayaquil, Havana, La Paz, Lima, Valparaiso, Mexico, Montevideo, Panama, Quito, Rio de Janeiro, Rosario, Santiago (Chile), Santiago (Cuba), Santo Domingo, Sao Paulo. 1930 [*980]
 - Ports and harbors of South America.** 1929 [980]
 - Report of the activities of the Pan American Union 1928-1933.** 1933 [980]
 - Seeing the Latin Republics of North America.** 1930 [980]
 - Seeing South America.** Condensed facts for prospective travelers. 1931 [980]
 - Seventh international conference of American States, Montevideo, Uruguay, December 3, 1933.** 1933 [980]
- Picard: **Das Menschengesicht.** [The human fact.] 1929 [138]
- Pratt: **Encyclopedias, how to use and evaluate them.** 1933 [030]
- Reitz: **Afrikaner.** 1933 [M 968]
- Richmond: **Naval training.** 1933 [M 8209-C.42-C]
- Riddell: **Lord Riddell's war diary, 1914-1918.** 1933 [M 9403-B.42]
- Ronge: **Espionage in industry and war.** Twelve years in espionage service. (Translation from the German.) 1932 [M 9403-C8-L.43]
- Schäfer: **Schlachtfeldführer für den Südwestlichen Kriegsschauplatz im Weltkrieg 1914/18.** [Guide to the battlefields of the southwest theater in the World War 1914/18.] 1933 [M 9403-J.45]
- Seasongood: **Local government in the United States.** A challenge and an opportunity. 1933 [352]
- Stallings: **The first World War—A photographic history.** 1933 [M 9403-B3-C.73]
- Stark: **Wings of war.** An airman's diary of the last year of the war. 1933 [M 9403-G9-J1-J8]
- Statesman's yearbook, 1933. 1933 [M 009-A]
- Statistisches Jahrbuch für das deutsche Reich.** Herausgegeben vom statistischen Reichsamt. Zweiundfünfzigster Jahrgang 1933. [Statistical yearbook for Germany, 1933.] 1933 [943]
- Strange: **Recollections of an airman.** 1933 [M 9403-G9-C.42]
- Sullivan: **Our times.** Vol. V: Over here 1914-1918. 1933 [973.91]
- Tacticus: **A study of the strategy and tactics of the Waterloo campaign, illustrating the principles of war.** 1927 [M 501-C.42]
- Taylor: **Gouverneur Kemble Warren.** The life and letters of an American Soldier, 1830-1882. 1933 [M 973-B92 (WA)]
- Thomas: **Old Gimlet Eye.** The adventures of Smedley D. Butler. 1933 [M 973-B92 (BU)]
- Tschiffely: **Tschiffely's ride.** Ten thousand miles in the saddle from Southern Cross to Pole Star. 1933 [910.8]
- Tschischwitz: **The army and navy during the conquest of the Baltic Islands in October, 1917.** An analytical study based on actual experiences. (Translation from the German.) 1931 [M 9403-L8-C.7]
- United States Court Reports.** Vols. 286, 287, 288. 1933 [345.4]

Vance: **Human geography of the South.** A study in regional resources and human adequacy. 1932 [910]

Virtue: **Company administration and personal records.** 1933 [M 206-C.73-L9]

War Department: **Report on supply system of the German Army during the World War 1914-1918.** 1932 [M 9403-H4-K.43-E]

Weber: **Isonzo, 1917.** 1933 [M 9403-J.45:7]

Wedel: **Austro-German relations, 1908-1914.** 1932 [327.43 (.436)]

Welt in Waffen. Berichte, photos, zahlen zur debatte über Sicherheit und Abrüstung. [The world in arms. Reports, photographs, data on the debate of security or disarmament.] 1933 [M 004-D]

Wortham: **Chinese Gordon.** 1933 [M 942-B92 (GO)]

Zimmermann: **Die (neue) Gruppe.** [The new German "unit."] 1933 [M 205-C.43-B5]

Section 6

DIRECTORY OF PERIODICALS

Included in this directory are only those periodicals from which articles have been selected.

See also, Section 8, "List of Periodicals Indexed and Key to Abbreviations."

	Page
Army and Navy Journal.....	127
Army and Navy Register.....	127
Army, Navy & Air Force Gazette (Great Britain).....	128
Army Ordnance.....	129
Army Quarterly (Great Britain).....	129
Bulletin Belge des Sciences Militaires (Belgium).....	129
Canadian Defence Quarterly (Canada).....	130
Cavalry Journal.....	130
Cavalry Journal (Great Britain).....	130
Cavalry School Mailing List.....	130
Chemical Warfare.....	130
Coast Artillery Journal.....	130
Esercito e Nazione (Italy).....	131
Field Artillery Journal.....	131
Fighting Forces (Great Britain).....	132
Infantry Journal.....	132
Intelligence Summary (War Department).....	132
Journal of the Royal Artillery (Great Britain).....	132
Journal of the Royal United Service Institution (Great Britain).....	133
Journal of the United Service Institution of India (Great Britain—India).....	133
Marine Corps Gazette.....	133
Militärwissenschaftliche Mitteilungen (Austria).....	133
Militär-Wochenblatt (Germany).....	135
Military Engineer.....	138
Military Surgeon.....	138
Naval Institute Proceedings.....	138
Quartermaster Review.....	139
Revista de Estudios Militares (Spain).....	139
Revista del Ejercito y de la Marina (Spain).....	139
Revista Militar (Argentina).....	140
Revue d'Artillerie (France).....	141

Revue de Cavalerie (France).....	143
Revue des Forces Aériennes (France).....	145
Revue d'Histoire de la Guerre Mondiale (France).....	146
Revue d'Infanterie (France).....	147
Revue du Génie Militaire (France).....	150
Revue Militaire Française (France).....	151
Rivista di Artiglieria e Genio (Italy).....	154
Royal Air Force Quarterly (Great Britain).....	155
Royal Army Service Corps Quarterly (Great Britain).....	155
Royal Engineers Journal (Great Britain).....	155
Royal Tank Corps Journal (Great Britain).....	155
Signal Corps Bulletin.....	155
Wehr und Waffen (Germany).....	156
Wissen und Wehr (Germany).....	156
Foreign Affairs.....	159
Foreign Policy Association: Foreign Policy Reports.....	159
International Conciliation.....	159
Journal of Modern History.....	159

Section 7

CATALOG OF SELECTED PERIODICAL ARTICLES

This section catalogs the articles selected from Library periodicals for the current quarter. Periodicals in this Catalog are arranged alphabetically.

Army and Navy Journal

7 OCTOBER 1933

- (1) Labor urged to fight iniquitous pay freeze
- (2) Budget "experts" study abandonment of posts
- (3) The Inspector General's Department of the Army. Major General Preston

21 OCTOBER 1933

- (4) Opposition to pay cut grows; study Navy bill
- (5) Chief of National Guard Bureau addresses Army War College (Major General George E. Leach)

28 OCTOBER 1933

- (6) Announce War College, Leavenworth policies
- (7) How to prepare for service in the tropics. Colonel Vedder
- (8) Tentative infantry drill regulations, 1932

4 NOVEMBER 1933

- (9) Plans for army motorization
- (10) Revision of Army-Navy pay system advocated
- (11) Fleet Naval Reserve training outlined. Captain Sharp, USN
- (12) Army efficiency reports
- (13) Army technical construction

11 NOVEMBER 1933

- (14) Modern Army planned by General MacArthur
- (15) Fleet to hold scouting problem in Caribbean
- (16) Move to strengthen 'B' Board, set standards
- (17) Aerial bombardment. 2d Lieutenant Todd

18 NOVEMBER 1933

- (18) Navy may have Board study revision of pay
- (19) Approve motors for FA under MacArthur plan

(20) A Navy view of the Monroe Doctrine. Admiral Upham

25 NOVEMBER 1933

- (21) Defense merger study involves USCG shift
- (22) A navy view of the Monroe Doctrine. (II) Admiral Upham
- (23) America's peace insurance. (Address by Maj.Gen. Hugh A. Drum)
- (24) Army Ordnance notes
- (25) Pacifism and preparedness

2 DECEMBER 1933

- (26) Chief of Staff warns nation of Army's state

9 DECEMBER 1933

- (27) President to give back only third of pay cut
- (28) Swanson urges repeal of pay cut and "freeze"

16 DECEMBER 1933

- (29) Plan for motorization of army is announced
- (30) New Marine Force will operate as fleet unit
- (31) Communications control in war (Col. Sarnoff's address)
- (32) Night aerial photography

23 DECEMBER 1933

- (33) End of "pay freeze" seen; cut undecided
- (34) A modern army

30 DECEMBER 1933

- (35) Services look back on tumultuous year
- (36) The War Department General Staff. Major General Drum

Army and Navy Register

7 OCTOBER 1933

- (1) Army Engineers make record
- (2) Retired officer's pay
- (3) Army Medical N.C.O's

28 OCTOBER 1933

- (4) Army War College class
- (5) Army foreign service

4 NOVEMBER 1933

- (6) Underage naval tonnage
- (7) The Third Army
- (8) Oliver on service pay
- (9) Removal of pay cut

11 NOVEMBER 1933

- (10) Treaty Navy by 1939

18 NOVEMBER 1933

- (11) National Rifle Matches
- (12) Urges modern army
- (13) "Pretty well disarmed already"
- (14) Mr. Woodring on preparedness

25 NOVEMBER 1933

- (15) Refuses to dignify debate. (Letter by Maj.Gen. Robert Alexander)

2 DECEMBER 1933

- (16) The pay study
- (17) Administration air minded
- (18) The state of the Army

9 DECEMBER 1933

- (19) Parity of pay determined
- (20) Secretary of Navy's report

16 DECEMBER 1933

- (21) Proposed army legislation

23 DECEMBER 1933

- (22) Work of Corps of Engineers
- (23) Naval annual reports
- (24) Health of the Army
- (25) Permanent peace. (Address by Hon. Frank B. Kellogg)
- (26) Industrial preparedness. (Address by Hon. Harry H. Woodring)

30 DECEMBER 1933

- (27) Navy building program
- (28) Citizenship rights
- (29) Navy annual reports
- (30) Radio in war. (Address by Maj.Gen J.G. Harbord, Retired)

Army, Navy and Air Force Gazette

7 SEPTEMBER 1933

- (1) Maximum navies for Japan and U.S.A.
- (2) Thoughts on administration. (XI) By "Obverse"
- (3) With Townshend at Kut. (I) Austin

14 SEPTEMBER 1933

- (4) Disarmament
- (5) Geneva knavery
- (6) Real causes of war
- (7) Geneva wants war
- (8) Children and war
- (9) With Townshend at Kut. (II) Austin

21 SEPTEMBER 1933

- (10) Aircraft and coast defence. Combined fleet and air exercises
- (11) Thoughts on administration. (XII) By "Obverse"
- (12) With Townshend at Kut. (III) Austin

28 SEPTEMBER 1933

- (13) Army manoeuvres, 1933
- (14) Thoughts on administration. (XIII) By "Obverse"
- (15) Aircraft-carriers and flying-boats
- (16) The Coast Defence exercise
- (17) French military estimates for 1933

5 OCTOBER 1933

- (18) Air and Navy exercise
- (19) The League and naval defence
- (20) Do sanctions mean war? By "Navalis"
- (21) Facilitating promotion
- (22) American cruiser building

12 OCTOBER 1933

- (23) Peace abroad, war at home
- (24) High speed war craft
- (25) Germany and war. Walton

19 OCTOBER 1933

- (26) War and peace
- (27) A skeleton fleet
- (28) Promotion of officers in the Italian Army. de Rysky

26 OCTOBER 1933

- (29) Thoughts on administration. (XIV) By "Obverse"

2 NOVEMBER 1933

- (30) Thoughts on administration. Officers and the conclusion. (XV) By "Obverse"

16 NOVEMBER 1933

- (31) Aircraft strength—A British analysis
- (32) Promotion of officers in the French Army. Lieutenant-Colonel Boiron

30 NOVEMBER 1933

- (33) The silencing of aircraft. Scott-Hall

7 DECEMBER 1933

(34) Extracts from the statement of the Government's policy regarding Australian defence. (From a speech delivered by the Rt. Hon. Sir George Pearce, K.C.V.O., Minister for Defence, at Sydney, on Sept. 25, 1933.)

14 DECEMBER 1933

(35) Rationalised promotion. The German system

(36) A contemporary account of Waterloo

(37) An international air force

(38) Clearing the higher ranks

(39) German Army promotion

21 DECEMBER 1933

(40) Why general officers do not retire. By the Editor

(41) Air power and coast defence. Air Commodore Chamier

(42) Elimination of officers in the French Army. Lieut.-Colonel Boiron, French Army

Army Ordnance

SEPTEMBER-OCTOBER 1933

(1) War and peace in the machine age. Lieut.-Colonel Brady

(2) Early history of American ordnance. Brigadier General Tschappat

(3) A plea for munitions quality. Millar

(4) The weight of gun carriages. Captain Goebert

(5) Identification of firearms. Major Hatcher

(6) Ordnance district operation in war. Captain Cowan

NOVEMBER-DECEMBER 1933

(7) Cavalry "marches" on wheels. Lieutenant Lodge

(8) A.D. 1936. Lieutenant Icks

(9) Gas masks. Captain Waitt

(10) Inspecting munitions production. Captain Burdick

(11) A miniature French 75. Gurney & Conlon

Army Quarterly (Great Britain)

OCTOBER 1933

(1) Imperial defence. Admiral Richmond

(2) The French official account of the Marne, 1914. Franchet d'Espérey's Army

(3) With the British Army in Constantinople. A personal narrative. Part II. Major-General Marden

(4) Cromwell in Lancashire. The campaign of Preston, 1648. Captain Irwin

(5) The German landing in Finland, April, 1918

(6) Air bombing and air disarmament. Part I. Air Commodore Chamier

(7) "Fortified frontiers." Lieut.-Colonel Baird Smith

(8) Four men on the ridge. Echoes of a forgotten controversy. I.—A conqueror unwilling. General Sir Archdale Wilson, Bart., of Delhi, G.C.B., etc. Lieut.-Colonel Thackeray

(9) Military roads. Colonel Kirke

(10) The tactical education of junior officers of the Territorial Army. Captain Lane

(11) The health of Napoleon during the Waterloo Campaign, with particular reference to the events of the 17th of June. Lieutenant Symons

(12) On military French. Captain Falls

(13) Wireless. By "Micro Henry"

Bulletin Belge des Sciences Militaires (Belgium)

By Major W.H. Haislip

JULY 1933

(1) "Pages d'Histoire de l'Armée Belge au cours de la Guerre 1914-1918.—Opération effectuée le 9 septembre 1918 par le 4e régiment de Carabiniers." [History of the Belgian Army during the World War, 1914-1918.—Operations of the 9th Carabiniers on the 9th of September 1918.] Capitaine Van Potelsberghe de la Potterie

(2) "Vauban et la frontière belge." [Vauban and the Belgian frontier.] Major Delvaux

(3) "Franchissement des cours d'eau." [River crossings.] (III) Lieutenant Thonnard

(4) "Fiches pour l'instruction de la sentinelle." [Forms for training sentinels.] Capitaine Rigal

(5) "Préparation d'une action offensive par l'artillerie." [The artillery preparation in the attack.] Capitaine Colsouille

(6) "L'observation.—Un cas concret." [Artillery observation. A concrete case.] Lieut.-colonel Nonnon

AUGUST 1933

(7) "Franchissement des Cours d'eau." [River crossings.] (IV) Lieutenant Thonnard

(8) "Vauban au Siège de Mons." [Vauban at the siege of Mons.] Major Delvaux

(9) "Quelques considérations sur la défense active contre avions volant bas." [Considerations relative to active defense against low-flying aircraft.] Lieutenant Général Van de Putte

(10) "Organisation défensive d'une position de batterie." [Defensive organization of a battery position.] Capitaine Lenders

(11) "Un cas concret de tactique Coloniale. Rencontre de petites unités isolées munies de l'armement moderne." [A concrete example of colonial tactics. Contact with small isolated units equipped with modern weapons.] Lieutenant Bayot

(12) "Journées d'offensive, les 30 septembre, 1er et 2 octobre 1918 au 1er Chasseurs à pied." [Attacks of the 1st Chasseurs (Foot) on the 30th of September, the 1st and 2d of October 1918.] (1) Lieutenant-colonel Lievin

Canadian Defence Quarterly (Canada)

OCTOBER 1933

(1) The influence of mechanization and motorization on the organization and training of the non permanent active militia. (Commended essay, 1933) Lieut.-Colonel Letson

(2) The Empire's military system. Lieut.-Colonel Baird

(3) The attack problem from an infantry point of view. Chef de battalion Baures (Translated by Major Pope)

(4) Germany's military organization in connection with present-day problems of international disarmament and revision of treaties. Compte de Suzannet

(5) Possibilities of centrifugal casting applied to gun manufacture. Lieut.-Colonel Carr

Cavalry Journal

SEPTEMBER-OCTOBER 1933

(1) Mechanized forces. Major Patton
(2) Cavalry crossing of an unfordable river in the Philippines. Colonel Commiskey

(3) The employment of a mechanized cavalry brigade. Captain Bonsteel

(4) The siege of Malta—A coast defence epic. Pratt

(5) Recognition of merits and deficiencies. Captain Gordon-Smith

NOVEMBER-DECEMBER 1933

(6) The German cavalry in the Roumanian campaign—1916. Colonel Davis

(7) The German intelligence service during the World War. Errante

(8) The grand strategy of the World War. Captain Gordon-Smith

(9) Washington's adventure to the Ohio. Lieutenant Colonel Edwards

(10) Field Marshal Radomir Putnik, Serbian Army. Captain Gordon-Smith

Cavalry Journal (Great Britain)

OCTOBER 1933

(1) The cavalry in France, March-April, 1918. Part VII. Lieut.Colonel Preston

(2) An eye for a horse. Part IV. Lieut.Colonel Goldschmidt

(3) Cavalry in the Great War: A brief retrospect. Lieut.Colonel Martin

(4) Modern mobile units. Lieut.-Colonel von Faber du Faur. (Translated from "Militär-Wochenblatt"—See also, QRML No. 48, page 88.)

Cavalry School Mailing List

15 DECEMBER 1933

(1) The war of tomorrow. The motorization of the cavalry. General Brecard, French Army

(2) Some recent developments in automatic arms. Major Daly

(3) Pneumatic tools with cavalry. 1st Lieutenant Lee

(4) Tactical employment of mechanized cavalry. Captain Holt

(5) Mechanized-mindedness. Major Lachlan, British Army

(6) Mechanized forces. Major Patton

(7) The tactical employment of chemicals by a cavalry (mechanized) force. Captain Tallant

(8) Problems in location of gassed areas. Captain Barker

Chemical Warfare

OCTOBER 1933

(1) Tactical employment of mechanized cavalry. Captain Hollett

(2) The work of the Chemical Warfare Service. Captain Barker

(3) Gas as a defensive weapon. Captain Liddell Hart

Coast Artillery Journal

SEPTEMBER-OCTOBER 1933

(1) The siege of Malta—A coast defence epic. Pratt

- (2) Armored fighting vehicles in action. Lieutenant Icks
- (3) The grand strategy of the World War. (I) Captain Gordon-Smith
- (4) Air maneuvers on the West coast. Lieut. Colonel Reardan

NOVEMBER-DECEMBER 1933

- (5) The German Intelligence Service during the World War. Errante
- (6) The role of defensive pursuit. (I) Captain Chennault
- (7) Post Exchange operation—Some suggestions and remarks. Major Watrous
- (8) The grand strategy of the World War. (II) Captain Gordon-Smith

Esercito e Nazione (Italy)

By Captain Fred During

APRIL 1933

- (1) "Problemi dell'Esercito nel discorso del Ministro della guerra al Senato." [A discussion by the Secretary of War before the Senate.]

During a discussion before the Senate, the Secretary of War states that the development of antiaircraft protection for Italy would receive his greatest attention. In the training of the army, discipline, rapidity of action in battle, and the principle of the offensive would be stressed.

- (2) "Scavalamento invernale di un colle di alta montagna." [The ascension of a high mountain in winter.] Lombardi

The 41st Mountain Company of the 4th Alpine Regiment climbed to the top of the Bianchi (2980 m), on February 4 and 5. This maneuver executed in fog, snow, heavy weather, etc., gives a very interesting picture of the Italian view of mountain warfare. The length of the march was 30 km., with a difference in height of 1500 m. Camp was established at 2400 m. The organization of the company was as follows: 3 rifle platoons, 1 ski platoon, 1 heavy machine gun platoon with 3 guns, 1 pack mule section, 8 officers, 214 enlisted men, 33 pack mules. Each rifleman carried 22 kg. and each member of the machine gun platoon 30 kg. of equipment. Rations for 7 days were carried on pack mules; in addition to this, each man carried 2 days' reserve ration. The maneuver was a complete success without an accident or friction.

- (3) "Squadroni nell'esplorazione vicina." [Cavalry in close reconnaissance.] Agosti

A maneuver by a divisional reconnaissance detachment in which leadership and action in battle is stressed. The cavalry squadron is responsible for an area of 4-5 km. in width. In the advance, 2 small detachments are sent about 10 km. ahead. The organization of the squadron and while on the march is as follows: Point, advance party—2 squadrons of cavalry, 1 platoon heavy machine guns, 1 platoon of armored cars, 1 company of Bersaglieris, 1 battery of artillery, 1 platoon of signal troops. The advance is made by bounds. Orders are issued orally. In case an enemy is met, the Bersaglieri company attacks frontally, while the cavalry with armored cars attacks the flank and rear of the enemy.

- (4) "La Libia e il suo avvenire." [Libya and her future.] Micaletti

MAY 1933

- (5) "La vittoria del Piave nella evocazione del condottiero." [The victory on the Piave.] Diaz

From an address by General Diaz given 10 years ago.

- (6) "XXIV Maggio—Santa Fanteria." [24th of May—Hallowed infantry] Miraglia

In memory of the unknown soldier of Italy.

- (7) "La nostra marina de guerra nell'anno XI." [Our navy in 1911.] Alcione

- (8) "L'occupazione di Rodi (4-16 maggio 1912)." [The occupation of Rodi, May 4-16, 1912.] Susani

- (9) "Un battaglione di fanteria nello sfruttamento del successo." [A battalion of infantry in the exploitation of success.] Valletti-Borgnini

Field Artillery Journal

SEPTEMBER-OCTOBER 1933

- (1) The Field Artillery miniature gun
- (2) Supporting an infantry division. Colonel Lanza
- (3) Arnold's expedition to Quebec, 1775. Dearborn
- (4) Efficiency ratings. Colonel Herron
- (5) The adaptability of ultra-short wave radio to Field Artillery communication. Lieutenant Chandler
- (6) Notes on the K method of transfer. Lieutenant Keyser

NOVEMBER-DECEMBER 1933

- (7) The first battle of Romagne. Colonel Lanza

(8) Forecast of Field Artillery progress during the next five years

(9) Suggested battalion staff reorganization. Major Irwin

(10) Machine gun mount for anti-aircraft firing. Captain Bevans

(11) A brief history of Fort Sill and the Field Artillery School

(12) The weight of gun carriages. Captain Goebert

Fighting Forces (Great Britain)

OCTOBER 1933

(1) Principles. Lieut.-Colonel Franklyn

(2) Up the river. Commander Ross

(3) The advance from Mons. Major Burne

(4) Wireless developments. Captain Wade

Infantry Journal

SEPTEMBER-OCTOBER 1933

(1) Operations of the 1st Platoon, Co. B, 38th Infantry. Lieutenant Williams

(2) The grand strategy of the World War. (I) Captain Gordon-Smith

(3) Armored fighting vehicles in action. Lieutenant Icks

(4) Night battles. (I) Lieut. General v. Altrock, German Army

(5) The war memoirs of Archduke Joseph. A discussion by Major A.L.P. Johnson

NOVEMBER-DECEMBER 1933

(6) Operations of Co. H, 60th Infantry, in the Meuse-Argonne offensive. Major Howe

(7) Night battles. (II) Lieut. General v. Altrock, German Army

(8) The grand strategy of the World War. (II) Captain Gordon-Smith

(9) Viewing our peace-time infantry organization. Major Sibert

(10) Citizenship training in Citizen Military Training Camps. Lieut. Colonel Paisley

(11) The German Intelligence Service during the World War. Errante

Intelligence Summary

6 OCTOBER 1933

(1) British Empire: The Singapore naval base

(2) China: The aftermath of the Tangku truce

(3) Central America and Panama: Present internal and international status (I)

20 OCTOBER 1933

(4) Germany: Germany's air defense of her civil population. (Including, Chart: Vulnerability of Germany to air attack and location of principal centers of industry and population.)

(5) Central America and Panama: Present internal and international status. (II)

(6) France: The requirements of matériel warfare (I)

3 NOVEMBER 1933

(7) Turkey: Ten years of the Turkish Republic

(8) Central America and Panama: Present internal and international status (III)

(9) France: The requirements of matériel warfare (II)

17 NOVEMBER 1933

(10) China: Yunnan: A French sphere of influence

(11) France: The requirements of matériel warfare (III)

(12) Russia: "Deep Tactics"

1 DECEMBER 1933

(13) British Empire: Relations with the Near East

(14) Germany: Germany withdraws from the Disarmament Conference and the League of Nations

(15) Cuba: Recent developments in the political situation

15 DECEMBER 1933

(16) Spain: The meaning of the Spanish vote

(17) Russia: The United States recognizes Soviet Russia

(18) Italy: "I Celeri" ("Light Troops") (I)

29 DECEMBER 1933

(19) British Empire: Relations with the Middle West

(20) Japan: The trials of reactionaries bring an unexpected verdict

(21) Italy: "I Celeri" ("Light Troops") (II)

Journal of the Royal Artillery (Great Britain)

OCTOBER 1933

(1) Education and the Army. A brief historical sketch. (II) Major Pemberton

(2) The Crimean Campaign through the light of the Great War. Lieut.-Colonel Head

(3) Sir John Moore. A lecture on British discipline. Major-General Fuller

(4) Extracts from "The Conduct of War," by Marshal Foch. II.—The results of victory. (Translated by Captain Kernan) [Extract No. I—The Battle of Spichenen, is found in the Jan. 1933 issue of the Journal; QRML No. 48.]

Journal of the Royal United Service Institution (Great Britain)

AUGUST 1933

- (1) The Red Army
- (2) A naval operation in Samoa. Commander Jeffreys
- (3) The reformation of infantry. Brigadier-General Rowan-Robinson
- (4) Bacterial warfare. Major Fox (U.S. Army)
- (5) Air defence
- (6) Younger generals. By Major Scudamore
- (7) Naval training: A general review. By "Observer"
- (8) Mechanized-mindedness. Major Lachlan
- (9) Man maintenance. Lieutenant Bennett
- (10) The offensive in future warfare: A French view
- (11) Public speaking. By "Siluri"
- (12) Some reflections on modern military tactics. By "Saracen"
- (13) Foreign policy of the Soviet Union
- (14) China and Japan
- (15) France: Air Force constitution bill
- (16) Great Britain: Territorial Army
- (17) France: Infantry reorganization at home
- (18) Germany: National physical training
- (19) Great Britain: Royal Air Force
- (20) Germany: The formation of the German Air Ministry
- (21) Japan: Official pronouncements on Air Defence

Journal of the United Service Institution of India (Great Britain—India)

OCTOBER 1933

- (1) Essay: "Discuss the tactical employment of light tanks, (a) with Cavalry, (b) with Infantry, in both the plains of India and in the mountainous country of the North-West Frontier. Particular reference should be made to the problems of maintenance and supply." By "Manuscript"

- (2) Light infantry training. By "X"
- (3) The co-ordination of the fighting services. Captain Currie
- (4) The relief of Lucknow. (With General Sir Colin Campbell from the 1st to the 22nd November 1857.)
- (5) The war game. Lieut.-Colonel Milling

Marine Corps Gazette

NOVEMBER 1933

- (1) The education of a marine officer. III. United States Army and Navy Service Schools. Brigadier General Williams
- (2) Foreign affairs. An outline of international political conditions today, our relations to them, and the bearing on the outlook for America's national defense. Healy
- (3) The tactics and technique of small wars. Part III.—Functions of the personnel (first) section of the Staff. Lieut.-Colonel Utley
- (4) What the Marine Corps Reserve is doing. Colonel Meade
- (5) The hazard of human flight. 1st Lieutenant Collings
- (6) The Waziristan Campaign, 1919-1920, 1923. Colonel Upshur
- (7) Some little known phases of Marine Corps aviation. 1st Lieutenant Miller

Militärwissenschaftliche Mitteilungen (Austria)

By Captain Fred During

JUNE 1933

- (1) "Conrad von Hötzendorf und die Kriegsschuldfrage." [Conrad von Hötzendorf and the question of war guilt.] (I) Feldmarschall-leutnant v. Urbanski
 - (2) "Die Entstehung der Tiroler Widerstandslinie." [The evolution of the Tyrol line of defense.] Oberst v. Eichthal
 - (3) "Der russisch-polnische Krieg 1919-1920." [The Russian-Polish War of 1919-1920.] Oberst v. Wittich
- The characteristics differentiating this war from the World War immediately preceding it may be summed up as follows: The armies were less well trained, armed, equipped, and led. A deficiency in the application of strategic principles was noted until the final chapter of the Vistula battle. The most remarkable of all was that two years of the World War, in which the cavalry had receded into the background, an

unexpected resurrection of cavalry took place, which nullified the idea that no more cavalry battles would be fought. In East Europe the role of cavalry is not at an end.

Events are divided into 3 distinct phases: (1) Up to May 1920, the star of Poland ascended, the occupation of Kiev marking the zenith; (2) The Russian forces advancing to the doors of Warsaw; and (3) The Vistula battle, which completely changed things—the defeat and withdrawal of the Russian forces behind the Niemen followed by the end of war.

(4) "Abschlusskämpfe um die erweiterte Mandschurei und Betrachtungen zum Pazifikproblem." [The final battles in Manchuria and considerations about the Pacific problem.] General Wiesinger

The author opens his article with a narrative of the recent operations in the province of Jehol. Jehol has a bearing on the problem of the Pacific, because its conquest by Japan strengthens Japan's hold on Manchuria and thus menaces the United States and Great Britain. By having withdrawn from the League of Nations, Japan obtained a free hand like the United States and Soviet Russia, thus affecting the relationship of these three competitors to one another, as well as Japan's relations with other powers having interests in the Pacific. Japan's aim—like that of the United States—is to possess the Chinese market, so as to ensure the sale of the products of its own highly developed industries. According to the author, the United States and Japan will play the chief roles in the fight for supremacy in the Far East and in the Pacific.

(5) "Tarnung. Betrachtungen zum Abschnitt IV der F.u.G." [Camouflage. A discussion of Chapter IV of the Austrian Field Service Regulations.] Oberst-leutnant Rendulic

The regulations distinguish between concealment, as of a passive kind of camouflage and a more active form of concealment. The definition given: "Camouflage embraces measures which are intended to make it more difficult for the opponent to make correct observations at the right time," paves the way to a distinction between camouflage proper, or simple concealment, and active measures undertaken either to mislead or prevent the enemy from obtaining information.

(6) "Österreichisch-ungarischer Kriegs-Strassenbau, Tovaena-Trichiana im Frühjahr 1918." [An example of road making in war.] Oberst Waldmann

JULY 1933

(7) "Prinz Eugen von Savoyen als Feldherr." [Prince Eugene of Savoy as a military leader.] Oberst Bobbio

(8) "Conrad von Hötzendorf und die Kriegsschuldfrage." [Conrad von Hötzendorf and the question of war guilt.]

(II) Feldmarschall-leutnant v. Urbanski

(9) "Zur Offensive 1916 aus Tirol." [Notes on the 1916 Tyrol offensive.] Generaloberst Dankl

The notes are written by the commander-in-chief of the Eleventh Army and amplify the official history. The offensive was planned for execution by the Eleventh Army (9 divisions), and by the Third Army (5 divisions), which Army was to follow the Eleventh Army and furnish it with reinforcements whenever required. The danger of the plan by which the offensive was carried out by a single army, followed by another for reinforcement, was that, as resistance increased and progress grew slower or ceased, the temptation would certainly occur of pushing the Second Army into line. This is precisely what happened on May 17th, with the result that the plateaus upon which the main thrust had to be made, were divided between two armies, and the unity of command, which General Dankl says was an essential part of Conrad's original plan, was lacking.

(10) "Zur Lage am unteren Piave vor und nach der Junischlacht 1918. Einblicke in die Verhältnisse beim Feinde." [The situation at the lower Piave before and after the June battle of 1918.]

A lecture by G-2 of the Austrian Isonzo Army, given during a course of instruction in leadership in battle. An interesting study of the workings of the military intelligence system under actual conditions.

(11) "Wehrhafte Jugenderziehung." [Military education in schools.] General-major Wiktorin

(12) "Kriegsbrückentechnische Skizzen." [Technical notes on war bridges.] (I) Oberstleutnant Böhm

AUGUST 1933

(13) "Wer hat den Weltkrieg vorbereitet? [Who prepared the World War?] Leutnant Handel-Mazzetti

When on 18 January 1919, Poincaré opened the preliminary peace conference at the Quai d'Orsay, he said that "it is proven that the war was prepared. In order to obtain world dominion, the Central Powers invented detestable excuses. To find a way to the Orient, Serbia was to be smashed." It is on this statement that the author places upon Germany's shoulders the whole responsibility for the war. His article is based upon the familiar argument that the side which can prove to its own satisfaction that it was less prepared than its opponent, cannot be held responsible for the war. By investigating the navies of the great powers, the author has little difficulty in showing the superior position of Great Britain and her allies. The writer introduces other factors besides naval strength, when he says that the political, military, and especially naval foundation of the Triple Alliance in 1914, was as weak as that of the Entente was strong. The author concludes with the remark: "that this is the best proof to brand as a lie the statement that it was militarism of the Central Powers which brought on the World War."

(14) "Rumäniens Eintritt in den Weltkrieg und der Chef des russischen Generalstabes General Alexejew." [Rumania's entrance into the World War and General Alexejew, Chief of Staff of the Russian Army.] Oberstleutnant Diakow

(15) "Der Wiederaufbau des serbischen Heeres nach dem Rückzuge an die Adria 1915-16." [The reorganization of the Serbian Army after the retreat to the Adriatic in 1915-16.] Oberstleutnant Mühlofer

(16) "Österreich-Ungarns Zusammenbruch in französischer Beleuchtung." [Austria-Hungary's collapse as seen by the French.] Major Franck

(17) "Einzelfragen zur Gefechtsausbildung." [Questions arising in combat training.] (I) Major Franck

(18) "Anregungen zur Truppenausbildung." [Aids to troop training.] Major Schwarzböck

(19) "Ein amerikanisches Landungsmanöver." [An American landing maneuver.] Generalstabsmajor von Berchem

(20) "Kriegsbrückentechnische Skizzen." [Technical notes on war bridges.] (II) Oberstleutnant Böhm

SEPTEMBER 1933

(21) "Die weltgeschichtliche Bedeutung des Jahres 1683." [The significance of the year 1683 in the history of the world.] Major Czegka

(22) "Die zweite Belagerung Wiens im Jahre 1683." [The second siege of Vienna in 1683.] Major Necati-Salim

(23) "Einzelfragen zur Gefechtsausbildung." [Questions arising in combat training.] (II) Major Franck

(24) "Der Weltkrieg 1914-1918. IX. Band des amtlichen deutschen 'Reichsarchivwerkes.'" [Volume IX of the German Official History of the World War.]

This volume covers the last few months of 1915. It deals at length with "the significance to the conduct of war of economies and armament." Light is thrown upon the pros and cons of the Salonika problem.

(25) "Die zweite Abrüstungskonferenz. Vom 2. Februar 1933 bis zur endgültigen Vertagung am 29. Juni 1933." [The second disarmament conference.] Major Paschek

(26) "Bestimmung der Massenträgheitsmomente von Geschossen." [Determination of the moments of inertia of projectiles.] Leonhardt

Militär-Wochenblatt (Germany)

By Major A. Vollmer

4 JULY 1933

(1) "Machtpolitik im Fernen Osten." [The powers in the Far East.]

(2) "Kavallerie im Rahmen der anderen Waffen." [Cavalry in combined arms.] (I)

(3) "Änderungen in der französischen Wehrorganisation?" [Changes in French National Defense.]

(4) "Neuzeitliche Flugabwehr-Artillerie." [Modern antiaircraft artillery.]

(5) "Die Ausbildung der rumänischen Infanterie." [Training of Rumanian infantry.]

(6) "Die neue Felduniform des Reichsheeres." [The new field uniform of the German Army.]

(7) "Taktische Aufgabe 8." [Tactical exercise No. 8.] Part III. Solution to Part II. 1st Requirement: Estimate of the situation and decision of Corps Commander I.

11 JULY 1933

(8) "Einheits-Wehrministerium und Wehrmächts-Generalstab." [Unified War Ministry and General Staff.]

(9) "Die Bankrotterklärung der Abrüstungskonferenz." [The bankruptcy of the Disarmament Conference.]

(10) "Die Zufuhrwege Polens im Kriegsfall." [Poland in case of war.]

(11) "Zur Lösung der Infanteriegeschütz-Frage." [Solution of the question of the infantry gun.]

(12) "Taktische Aufgabe 8." [Tactical exercise No. 8.] Part IV. Discussion.

18 JULY 1933

(13) "Reiterschicksal in Feindesland. Eine Lehre für neuzeitliche Aufklärungstruppen." [The fate of riders in enemy country: A lesson for modern reconnaissance troops.] (I)

An account of the encounter with enemy tanks and armored cars by the first heavy cavalry of the Bavarian Cavalry Division engaged in railroad demolition during the race for the sea, September 1914.

(14) "Organisation und Kampfweise einer französischen MG.-Kompanie." [Organization and combat methods of a French Machine Gun Company.]

(15) "Artillerievermessung." [Artillery survey.]

(16) "Die Abwehr chemischer Kampfmittel in der Roten Armee." [Defense against Chemical Warfare in the Red Army.]

(17) "Der zivile Luftschutz in der Luftverteidigung." [Civil defense against aircraft.]

25 JULY 1933

(18) "Preussisch-deutsche Kadettenerziehung." [Cadet training in Germany.]

(19) "Kann der Panzerzug ein artilleristisches Feuergefecht führen?" [Can the armored platoon prosecute an artillery fire fight?]

(20) "Reiterschicksal in Feindesland. Eine Lehre für neuzeitliche Aufklärungstruppen." [The fate of riders in enemy country: A lesson for modern reconnaissance troops.] (II)

A continuation of the experiences of a Bavarian Cavalry Regiment in September 1914.

4 AUGUST 1933

(21) "Frankreichs neueste Abrüstungs-sabotage." [The newest French disarmament sabotage.]

(22) "Nachtgefechte." [Night battles.] (I) Generalleutnant v. Altrock

[NOTE: This article continued in Militär-Wochenblatt for 11 August and concluded in 18 August issue. Translated in full with additions in "Infantry Journal" for Sept.-Oct. and Nov.-Dec. 1933.]

(23) "Kavallerie im Rahmen der anderen Waffen." [Cavalry in combined arms.] (II)

(24) "Das neue Italien. Zum 50. Geburtstag Mussolinis." [The new Italy: Mussolini's fiftieth birthday.]

(25) "Technischer Rundblick." [Technical survey.] Oberst Blümner

(26) "Die Ausbildung der französischen Zivilbevölkerung im Gasschutz." [Training of French civil population in gas defense.]

11 AUGUST 1933

(27) "Herstellen und Beseitigen von Strassensperren." [Construction and destruction of obstacles.] (I)

(28) "Nachtgefechte." [Night battles.] (II) Generalleutnant v. Altrock

(29) "Beitrag zur MG.-Taktik." [Contributions to machine gun tactics.]

(30) "Die polnische Kavallerie." [The Polish cavalry.]

18 AUGUST 1933

(31) "Verwendungs- und Führungsgrundsätze neuzeitlicher Heereskavallerie." [Employment and basic principles of conduct of modern independent cavalry.]

"The ability to employ cavalry is an important criterion of the leader of today," says General von Seeckt in "Moltke ein Vorbild" [Moltke as a model], and he adds, "Napoleon possessed it." He could well have mentioned Frederick the Great and the older Moltke as well.

Count Schlieffen counted on the cooperation of cavalry as a necessary element in his war plans. With its reconnaissance missions taken over largely by the Air Arm, he saw it as carrying the battle into the enemy's flank and rear. But his advice went unheeded. True to the habit of prosecuting every war in the fashion of the previous one, distant reconnaissance was considered to be its chief mission. Yet even today this is the doctrine of the new German regulations. This may be because the proper employment of the cavalry in the World War was never met with success. But

the reasons why this was so are that it was never employed early enough nor in sufficient strength. G.H.Q. decided too late to employ the cavalry after the battle of the Marne after they had embarked on a new offensive which was to envelop the French left flank. As already shown, six cavalry divisions could have been in readiness on the right wing on 17 September 1914 in the area: Noyon—Roy—Montdidier while in fact the first two cavalry divisions were not dispatched there until 18 September.

Inadequate forces of cavalry were allotted to the two great envelopments in the East (Lodz and Wilna).

An example of how the mission may disastrously affect the performance of cavalry is to be found in the employment of Independent Cavalry Corps IV (Cavalry Corps Hollen) on 4 October 1914, on the right wing of the German Army at Lille. The "race to the sea" had reached its crisis. The German G.H.Q. wanted to make a final attempt with the Hollen Cavalry Corps to gain the enemy's flank and "roll him up" from North to South. The mission to this Corps, detraining at Lille, read as follows: "The IV Cavalry Corps has the mission, independently of, but in constant liaison with, the Sixth Army, of advancing, by a wide envelopment, against the flank and rear of the enemy on our right wing, of cutting the enemy lines of communications, particularly the railroads which run from the coast and the South to the area West of the line: Amiens—Lille, and of preventing enemy operations against our right wing at all costs." It was not possible to perform the liaison part of the mission along with the rest, and the attempt to do so was disastrous for the general missions. There was added to the above-mentioned, the mission of flank protection for the Sixth Army. All of these missions together were inconsistent and impracticable of solution.

The marches by the cavalry were often too short and inadequate to the purpose, e.g., often hardly 30 km. were traversed. Frequently this resulted from earlier over-exhaustion due to improper employment on secondary missions such as distant reconnaissance and screening. This was the case with the 1st Cavalry Division on the Eastern Front, with the Eighth Army in 1914, after its exhaustion in the battles of the frontiers.

Complete conservation of its strength was essential if it was to be employed in the Schlieffen sense as a deciding element of combat. Only if the preliminary cavalry movements are to lead to destruction of the enemy cavalry are they justified. The German regulations for the combined arms, however (Par. 83 F.u.G.), do not bear this out for they speak of "throwing back the enemy cavalry," and this is not enough to call for the exhaustion of our own, and, to maintain the chief desideratum, mobile warfare, the cavalry must avoid delays en route occasioned by possible enemy columns or entry to villages, etc. The latter have ever been a lure and loss of time for this arm, the most unsuitable for the purpose (Hollen Cavalry Corps, 1 day lost at Lille, 4 Oct. 1914; Brit. Cavalry in Palestine at Haifa and Acre delaying pursuit of Turkish Army on Damascus).

Celerity and mobility seem such elementary axioms that it would appear superfluous to mention them; yet they must become part of the flesh and blood of troops before they are automatically held to—so, for example, after the battle of the Marne we see a German reconnaissance detachment, left behind on the Marne, abandon its horses, and strive to regain its cavalry division on foot, which of course resulted in its capture.

(32) "Nachtgefechte." [Night battles.]
(III) Generalleutnant v. Altrock

(33) "Herstellen und Beseitigen von Strassensperren." [Construction and destruction of obstacles.] (II)

(34) "Einzel- und Sammelerschutz gegen Gas-, Brand- und Splitterwirkungen." [Individual and collective protection against gas.]

25 AUGUST 1933

(35) "Die Mobilmachung des gesamten Landes." [Mobilization of the whole nation.]

(36) "Wehrwissenschaft und Wehrerziehung." [National defense—knowledge and training.]

(37) "Unzweckmässige Kavallerieverwendung. Gefecht bei Pillon am 10. August 1914." [Faulty cavalry employment. Battle at Pillon, 10 August 1914.] (I) (See abstract, page 48)

(38) "Tankbekämpfung durch Minen." [Mines against tanks.]

(39) "Artilleristische Anschauungen in Frankreich." [Artillery views in France.]

(40) "Der Stille Ozean als Kriegsschauplatz der Zukunft." [The Pacific as future war zone.]

(41) "Manöver der russischen und japanischen Luftflotte." [Maneuvers of Russian and Japanese air fleets.]

4 SEPTEMBER 1933

(42) "Soldatische und zivile Beherrschung der Technik." [Military and civil mastery of technique.]

(43) "Kampfaufgaben der Artillerie bei Nacht." [Artillery missions in night operations.] Hauptmann Lattmann

(44) "Unzweckmäßige Kavallerieverwendung. Gefecht bei Pillon am 10. August 1914." [Faulty cavalry employment. Battle at Pillon, 10 August 1914.] (II) (See abstract, page 48)

(45) "Kritik des kriegsgeschichtlichen Unterrichts." [Critique of military instruction.]

(46) "Frankreichs farbige Heere." [France's colored armies.]

(47) "Aus der Werkstatt der Truppe: Die Ausbildung der Truppe in der Abwehr chemischer Kampfmittel." [From the workshop of the troops: The training of troops in antigas methods.] (I)

11 SEPTEMBER 1933

(48) "Heran an die Abrüstung." [Towards disarmament.]

(49) "Aus dem Kampf um den deutschen Ostraum." [From the war for the German Eastern Area: Vienna, 1683.]

(50) "Das Rezept zum Siege. Gedanken des Auslandes über den Zukunftskrieg." [The recipe for victory. Foreign views on the war of the future.] (I)

(51) "Polens militärische Führungs- und Kampfgrundsätze." [Poland's military leadership and principles.]

(52) "Luftschutz motorisierter Verbände." [Aerial protection of motorized units.]

(54) "Aus der Werkstatt der Truppe. Die Ausbildung der Truppe in der Abwehr chemischer Kampfmittel." [From the workshop of the troops: The training of troops in antigas methods.] (II)

Military Engineer

NOVEMBER-DECEMBER 1933

(1) Mechanization of combat units. Major Marsh

(2) Light weight transport. Ragsdale

(3) Ground glare from aircraft. Ryker

(4) Combating wear in military equipment. Day

(5) Leadership and organization. Colonel Jackson

(6) Surveying in the Philadelphia District. Major Young

(7) Breakwaters on the Great Lakes. Major Heavy

JANUARY-FEBRUARY 1934

(8) The military survey of Luzon. Lieutenant Morris

(9) Fuel control in a national emergency. Myers

(10) The Civilian Conservation Corps. Major Guthrie

(11) Replacement of rolling lock gates. Lieut.Colonel Hall

(12) Service test of ponton equipage. Lieutenant Harding

(13) Developments in steel breakwaters. Colonel Caples

(14) Common sense of camouflage defense. Major Mackenzie, Royal Engineers

Military Surgeon

OCTOBER 1933

(1) The Medical Service of the French Army during the World War. Colonel Schickel, French Army

DECEMBER 1933

(2) The value of studies in health and sanitation in war planning. (The Wellcome Prize Essay, 1933) Major Hume

(3) The use of autogiros in the evacuation of wounded. Lieut.Colonel Lawrence

Naval Institute Proceedings

OCTOBER 1933

(1) The Navy's future fuel problem. Lieutenant Hamilton

(2) Aerial bombardment of fleet bases. Ingénieur en Chef Rougeron

NOVEMBER 1933

(3) Porter's dire need of bases. Captain Knox

(4) America's responsibility to the Armistice. Captain Roberts

(5) Procurement planning for war. Captain Williams

DECEMBER 1933

(6) The German Oesel Expedition in 1917. v.Berchem

(7) Nationalism and internationalism. Captain Beauregard

Quartermaster Review

NOVEMBER-DECEMBER 1933

(1) Traffic control. Motor transport and its strategic employment. Major Drake

(2) Spending a million a day

Revista de Estudios Militares (Spain)

By 1st Lieutenant M.D. Taylor

MAY 1933

(1) "Grandes maniobras en Túnez, en combinación con la Marina de guerra." [Joint maneuvers with the Navy in Tunis.] Comandante Ungria

A description of French maneuvers.

(2) "Extensión y contenido de las órdenes de operaciones." [Length and content of field orders.] Comandante Quintana

(3) "Relación de la aviación civil con la de guerra." [Relation of civil and military aviation.] Comandante Manzaneque

(4) "Nuestra División como unidad de maniobra (Encuesta)." [The Spanish division as a maneuver unit.] Teniente Coronel Noreña

(5) "Polonia.—Ejercicios de invierno en la región de Poznan." [Polish winter exercise in the Poznan region.] Comandante Barra

(6) "Con la 48a. promoción de la Escuela de Guerra de París." [A course at the French Ecole de Guerre.] Teniente Coronel Uguet

JUNE 1933

(7) "Maniobras militares y ejercicios de conjunto." [Military maneuvers and exercises of combined arms.] Comandante Martínez de Campos

(8) "Análisis de una actuación de carros de combate." [Tank combat study—Cambrai.] Capitán Jiménez

(9) "Organización más adecuada de un Regimiento de Artillería ligera (Encuesta)." [An improved organization for a regiment of light artillery.] Coronel Cabanyes

(10) "Estudio acerca del nuevo Reglamento de Cartografía militar." [Study of the new regulations governing military cartography.] By the Map Section of the General Staff

(11) "Con la 48a. promoción de la Escuela de Guerra de París." [A course at the French Ecole de Guerre.] Teniente Coronel Uguet

Revista del Ejército y de la Marina (Mexico)

By Major C.A. Willoughby

MARCH 1933

(1) "El Banco del Ejército Nacional." [A bank for the Army.]

(2) "La Maniobra.—Conferencia." [Maneuver. A conference.] Teniente Coronel Alamillo Flores

An interesting historical study of the maneuver factor, in warfare, on the basis of historical examples. (a) Maneuver of the Lech, 1805; (b) The Marne, Sept. 1-15, 1914; (c) The Battle of the Ourcq, Sept. 5-12, 1914; (d) Battle of the Morin, Sept. 6-12, 1914; (e) The Marshes of St. Gond, Sept. 7-12, 1914; (f) The Argonnes, Sept. 6-14, 1914. There are a number of useful sketches and accompanying maps. Colonel Alamillo is Director of the Escuela Superior de Guerra, and a recent graduate of the Ecole Supérieure de France.

(3) "Materiales de Artillería ligera empleados en los Ejércitos modernos." [Field Artillery matériel in modern armies.] Teniente Coronel Guzmán Cardenas

(4) "El Combate de Encuentro." [The meeting engagement.] Capitán Calderón

(5) "El Caballo." [The horse.] Capitán Villarreal Maya

(6) "Informaciones sobre el Servicio Militar de Intendencia. Objeto y Organización General del Servicio Militar de Intendencia del Ejército Francés." [The organization of the supply services, French Army.] Coronel Aguirre Manjarrez

(7) "Enlaces y Transmisiones." [Communications.] Mayor González Alvarez

(8) "Elementos de Cultura Naval." [Naval training.] Capitán Vázquez del Mercado

(9) "La Campana de 1809 en Alemania." [The Campaign of 1809 in Germany.] Capitán Rivas

(The April number was digested in RML No. 50.)

By 1st Lieutenant M.D. Taylor

MAY 1933

(10) "Instructivo a que deberán sujetarse los CC. Jefes y Oficiales del Ejército que se designen como Manejadores de Fondos, a fin de que todos sus procedimientos queden ajustados a las disposiciones dictadas por las Secretarías de Hacienda y de Guerra." [Instructions

for the guidance of paymasters and agent officers in order to conform with the regulations promulgated by the Ministries of War and of the Treasury.] General de Brigada Aguirre Manjarrez

(11) "La División y el Problema de las Marchas." [The division and its march problems.] Teniente Coronel Alamillo Flores

(12) "Informe de la Comisión Intersecretarial de Radio." [Report of the joint ministerial commission on radio communication.]

(13) "El Objeto de las Operaciones de la Guerra." [The purpose of the operations of the war.] (I) General Brosse, French Army

(14) "Elementos de Cultura Naval." [Essentials for an understanding of the Navy.] (I) Capitán de Corbeta Vázquez del Mercado

A popular discussion of torpedoes, the gyrocompass, radiogoniometry, etc.

(15) "Servicio de Subsistencias." [The subsistence service.] Teniente Ingeniero Sánchez Hernández

(16) "Llor a los Veteranos de la Cepa Auténica." [Praise for the veterans of the old stock.] Sánchez Azcona

A eulogy of Mexican armies at the battle of 5 May 1862.

(17) "Impresiones de una visita al edificio en construcción, de la Escuela Superior de Guerra." [Impressions upon a visit to the new War College building under construction.] Munoz

JUNE 1933

(18) "El Gobierno Mexicano crea la Escuela de Aplicación." [Mexico creates a general service school.]

(19) "Observaciones y Sugestiones para el Servicio de Intendencia General del Ejército." [Observations and suggestions for the Quartermaster Service of the Army.] General de Brigada Aguirre Manjarrez

A study of the activities of the Quartermaster General, U.S. Army.

(20) "El Objeto de las Operaciones de la Guerra." [The purpose of the operations of the war.] (II) General Brosse, French Army

A translation from the "Revue Militaire Française."

(21) "Elementos de Cultura Naval." [Essentials for an understanding of the Navy.] (II) Capitán de Corbeta Vázquez del Mercado

(22) "La Guerra Aérea.—Principios de la lucha en el aire." [Aerial warfare—

principles of air combat.] Capitán Corzo y Molina

(23) "La Economía Nacional." [National economics.]

(24) "El Vestuario y el Equipo para el Ejército." [Clothing and equipment for the army.] Mayor Escanero Villaseñor

(25) "El abastecimiento de Verdún durante la Guerra Europea." [The supplying of Verdun during the World War.] Teniente de Intendencia Calero Múgica

(26) "El Servicio Militar, la Guerra y la Economía." [Military service in its relation to war and economics.] By "A.C."

(27) "Organización de las Trasmisiones en una División Orgánica." [Organization of the signal communications of a division.] Coronel Cortés González

(28) "Composición de los Principales Ejércitos del Mundo—Brasil." [Compositions of the principal armies of the world: Brazil.]

(29) "Estrategia y Tactica Naval." [Naval strategy and tactics.] Comodoro Castillo Barrero

Revista Militar (Argentina)

By 1st Lieutenant M.D. Taylor

MAY 1933

(1) "La ciencia y la ética militar de San Martín." [The character and military skill of San Martín.] Otero J.P.

A eulogy of the Liberator.

(2) "Cuestiones de infanterie. Abastecimiento de munición." [Infantry discussions.—Ammunition supply.] (VII) Coronel Descalzo

(3) "Conferencia Mundial del Desarme." [The world disarmament conference.] (III) Oot T.E.

An analysis of documents presented the Disarmament Conference showing the military resources of the countries of Latin America.

(4) "La guerra aérea." [Aerial warfare.] Tte. Cnel. Zuloaga A.M.

The introductory chapter of a book in preparation of the same title.

(5) "El estudio de la historia militar." [The study of military history.] Capitán Pollero J.V.

(6) "El caballo como elemento de transporte superior en América al motor mecánico." [The horse as a means of transportation superior to the motor for South America.] Capitán Gómez J.F.

(7) "El moderno canon divisionario." [The modern field piece of the division.] General Challéat

A study of the ballistic and tactical characteristics of the ideal light gun for the division.

(8) "La defensa de la brecha Kluck-Bülow por los cuerpos de caballería Marwitz y Richthofen." [The defense of the gap between the armies of Kluck and Bülow by the cavalry corps of Marwitz and Richthofen.] (IV) Tte. Cnel. Pugens

A translated article from "Revue de Cavalerie."

(9) "La retirada." [Retrograde movements.] Teniente Ahrens G.

Translated from the "Militär-Wochenblatt."

JUNE 1933

(10) "La industria del petróleo en sus diversos aspectos." [Various aspects of the oil industry.] Ingeniero Villa M.L.

An address before the Officers' Club by a civil engineer.

(11) "Cuestiones de Infantería. Abastecimiento de munición." [Infantry discussions.—Ammunition supply.] (VIII) Coronel Descalzo

(12) "Conferencia Mundial del Desarme." [The world disarmament conference.] (IV) Oot T.E.

(13) "La aviación y los principios de la guerra." [Aviation and the principles of war.] Tte. Cnel. Zanni P.

(14) "Síntesis de los principios generales para el combate de encuentro." [Summary of the general principles of meeting engagements.] Capitán Silva O.R.

(15) "Notas aclaratorias del trabajo del comandante Holloway H. Frost (U.S.A.), titulado 'Avancemos juntos.'" [Extracts from Commander Frost's article, "Let's pull together." (Naval Institute Proceedings)] Capitán Yaben J.R.

(16) "Contribución al estudio del mal de cadera." [A contribution to the study of hip disease.] Yolde J.A.

A veterinary study.

(17) "Desde mi puesto de observación en París: Algunos pronósticos sobre la guerra en Sud América." [From my observation post in Paris: Some prophecies concerning war in South America.] Tte. Cnel. Fantini Pertiné

(18) "El tiro de acuerdo al terreno o cargas reducidas y precisión de tiro." [Fire with relation to terrain or reduced

charges with respect to accuracy of fire.] General Challéat

A translation from the "Revue d'Artillerie" of April 1930.

Revue d'Artillerie (France)

By Lieut.Colonel L.P. Horsfall

AUGUST 1933

(1) "En marge des règlements. Plan d'installation du groupe." [Marginal notes on the regulations. Plan of installation for a battalion of artillery.] Général Pagezy

The commander of an artillery battalion must plan a division of duties in order to insure rapidity and precision without delay at the time of opening fire. The French regulations do not prescribe any particular method to accomplish this purpose. This article outlines several methods. The battalion commander should not have to improvise or invent a new method after he has arrived on the terrain where the batteries are to be emplaced. He should be able to choose the most appropriate method of several that are familiar to his unit.

(2) "Caractéristiques essentielles du canon divisionnaire." [Essential characteristics of division artillery.] Colonel Buchalet

This article discusses the characteristics desirable in division artillery, and arrives at conclusions somewhat different from those generally accepted. His conclusions may be summarized as follows:

(a) A field piece should be able to fire four shots per minute for several hours.

(b) Three muzzle velocities should be available at will in order to obtain curved fire.

(c) Elevation of 45 degrees should be possible, and traverse through a minimum of 60 degrees.

(d) The weight of the piece in firing position should be about 2,200 pounds, and when on the road the weight should not exceed 4,400 pounds.

(e) The calibre should be about 90-mm.

(3) "Un tir de guerre par observation unilatérale." [War time firing with unilateral observation.] Colonel Carlut

The article discusses methods and formulas for the regulation of fire with unilateral observation.

(4) "Aux jeunes artilleurs." [To young artillerymen.] Lieut.-colonel de Mazenod

In defensive positions during stabilized warfare there is ample time for calcu-

lations before firing. Slow, careful methods are not well adapted, however, to moving warfare with rapidly changing situations. Young artillerymen must not forget that rapid solutions of firing problems are more necessary than precision in certain situations.

(5) "La guerre au XIV^e siècle avec Du Guesclin. Du Fougeray à Cocherel." [Warfare in the XIV Century as conducted by Du Guesclin at du Fougeray and at Cocherel.] Capitaine Ferré

The article reviews French and English methods of warfare as exemplified at Crecy (1346) and Poitiers (1356). Du Guesclin defeated the English, in 1364, by the rapidity of his movements and by his method of using the infantry.

(6) "Portugal: Matériel de défense contre aéronefs." [Portugal: Antiaircraft material.] Extracted from "Revista Artilharia," of June 1933. Portugal has purchased a battery of Vickers-Armstrong antiaircraft guns.

SEPTEMBER 1933

(7) "Appui par l'artillerie d'une attaque d'infanterie avec chars." [Artillery support of an infantry attack with tanks.] Colonel Buchalet

This article is intended to supplement the French regulations regarding the coordination of the action of infantry, tanks, and artillery in an attack. (See abstract, page 29)

(8) "La D.C.A. pendant la guerre. Evolution des méthodes de tir." [Antiaircraft artillery during the war. Evolution of firing methods.] Chef d'escadron Lucas

This article describes the evolution of methods of French antiaircraft defense during the period 1916-1918.

(9) "Au but." [On the target.] Capitaine Basset

A review of lucky hits by artillery in past warfare.

(10) "Préparation graphique de tirs dans le groupe par l'emploi des rapporteurs de parallaxes." [Graphical preparation of fire in a battalion of artillery by the employment of parallax protractors.] Chef d'escadron Maréchal

A mathematical discussion of a graphical method for the control of artillery fire.

(11) "Aperçu sur le Corps de l'Artillerie, de son origine à nos jours, en ce qui concerne les Troupes, les Services et les Etablissements." [A brief review of the personnel, functions, and organi-

zation of the Artillery Corps from its origin to the present day.] Capitaine Belleville

An historical review of the development of artillery in France.

(12) "Espagne: Mortiers légers pour la cavalerie." [Spain: Light mortars for cavalry.] An extract from "Revista Militare Italiana" of July 1933, describing a new 50-mm. mortar developed in Spain.

OCTOBER 1933

(13) "Notes sur trois dispositifs simples pour le calcul des corrections en direction." [Description of three simple devices for the calculation of corrections in direction.] Colonel de F.

These devices, comprising scales and curves, are intended to facilitate obtaining approximate direction corrections rapidly.

(14) "L'artillerie antiaérienne aux armées. [Army antiaircraft artillery.] Chef d'escadron Lucas

This article portrays the history of antiaircraft artillery during the early part of the World War. A brief account is given of the development of this type of weapon during 1914 and 1915, together with the organization adopted in 1916. Official statistics record that during 1916 fifty-four airplanes, one kite balloon, and two Zeppelins were shot down by antiaircraft fire; and that about 11,000 rounds were fired for each hit obtained.

(15) "Le combat de Cernay (9 août 1914)." [The Battle of Cernay, 9 August 1914.] Chef d'escadron Joguet

The Battle of Cernay, fought by the 41st Division, took place in Upper Alsace, during the early days of the World War. It is closely related to the Battle of Altkirch, fought by the 14th Division, which was discussed by the same author in the March, 1933, issue of this magazine. This article describes the operations on both sides with considerable detail, and is accompanied by a good map.

(16) "Systèmes d'abaques permettant la suppression des calculs des sections de réglage par coups fusants hauts." [A system of charts for high-burst ranging, the use of which will eliminate the necessity for trained calculators on range sections.] Lieutenant Cuny

A mathematical and technical study, accompanied by cuts showing the charts to be used for calculating firing data. The advantage claimed for this method

is that any soldier capable of reading a scale can be taught to use the charts, thus eliminating intricate mathematical calculations, and the necessity for long periods of training for calculators.

(17) "Coup d'oeil sur l'avenir." [A glance at the future.] Capitaine Aizier General von Kuhl, in 1929, published a book entitled: "The World War, 1914-1918, explained to the German public." The last chapter of this book is devoted to certain military problems of the future, and the author of this article presents a resumé of extracts from the German text. A number of arguments are presented justifying the use by the Germans of gas, submarines, and bombing airplanes. As regards future warfare, he concludes that mechanization, motorization, and small highly efficient professional armies can not gain the decision alone. Wars will be fought by nations in arms, employing all the means available, on the sea, on land, and in the air. Stalemate can result in defeat, as the Germans learned in the World War. An interesting item concerns the use of gas or bombs to destroy civilian populations. He estimates that destruction of a city like Berlin would require 8,000 airplanes, each carrying a ton of bombs.

(18) "Etats-Unis: Ballons d'observation motorisés." [United States: Motorized observation balloons.]

(19) "Italie: Canons antiaériens Ansaldo." [Italy: Ansaldo antiaircraft guns.]

Revue de Cavalerie (France)

By Major N.B. Briscoe

JULY-AUGUST 1933

(1) "La défense de la brèche Kluck-Bülow par les corps de cavalerie Marwitz et Richthofen (6-9 septembre 1914)." [The defense of the gap between the armies of von Kluck and von Bülow by Marwitz and Richthofen cavalry corps, 6-9 September 1914.] (VIII) Lieut.-colonel Pugens

This is the eighth of the series. The first installments were translated during the school year 1932-1933 as a study in Individual Research. The remainder of the series is being similarly treated.

(2) "Le problème de la vision dans les automitrailleuses et les chars." [The problem of vision in armored cars and tanks.] Lieutenant Divenne

One of a series of independent articles by different writers who have discussed armor, armament, construction, etc., of

these vehicles, some of the writers going into highly technical details. The present writer, with twenty sketches and diagrams and nine photos, discusses holes, slots, shatter-proof glass, wood, spinning discs, periscopes, and geoscopes. He classifies the various schemes as vision "direct," "indirect," and "interrupted."

The discussion would undoubtedly be of great value to the technical designers of such vehicles and to proving ground personnel, working with the idea of improving vision from the vehicles.

(3) "L'élevage en Pologne." [Breeding (horse) in Poland.] de Chevigny

A study of remount activities in Poland.

(4) "Un groupe de reconnaissance en couverture et dans une marche offensive." [A reconnaissance group on security and in an offensive march.] (II) Capitaine Schott

Being the second and concluding article giving an account of the activities of the reconnaissance group of the 9th Infantry Division in the maneuvers on the Aisne in 1931.

SEPTEMBER-OCTOBER 1933

(5) "La défense de la brèche Kluck-Bülow par les corps de cavalerie Marwitz et Richthofen (6-9 septembre 1914)." [The defense of the gap between the armies of von Kluck and von Bülow by Marwitz and Richthofen cavalry corps, 6-9 September 1914.] (IX) Lieut.-colonel Pugens

The ninth article in this series, which is being translated as a study in Individual Research.

(6) "Le problème de la cavalerie." [The problem of the cavalry.] Chef d'escadrons Mariot

The author sees the problem of employment of modern cavalry in terms of space, mobility, and fire power and seeks to determine their relative values.

He cites the cavalry of Napoleonic days as the "arm of the high command," used to extend the action beyond the range of the weapons of that day, to gain information, to make the commander's presence felt in the battle and to take advantage of or to create "the situation." He shows that this combat in the main battle can be overdone, as was the case at Waterloo.

The period 1914-1918 demonstrated that the "arm of the high command" had become the artillery and that the

cavalry "is no more in the battle, than infantry fire transported and placed more rapidly." The advantage then is economy in numbers and a gain in time. This gain in time is dependent upon space for employment. From 1914 to 1918, there being no flanks (he is thinking entirely in terms of the Western Front), the only free space was in the air and in the rear areas, which allowed the cavalry to operate as general reserves, having space to use its speed in transporting fire power for reserve purposes.

The post-war period he divides on the basis of cross-country operation of motor vehicles, the earlier vehicles being confined to roads, the later ones having cross-country capability, permitting close cooperation between the motored and horsed elements.

Future warfare (for France) will follow the lines of the World War, open warfare, a period of stabilization, then the creation of space for maneuver, either by flanks or by gaps, for the employment of mobile forces. "Whatever the speed, it is indispensable, to guarantee their employment, to give forces auxiliaries more mobile, which can take care of what are called 'the little operations of warfare.'" (Reconnaissance, liaison, security.)

He finds that the Napoleonic cavalry had an excess of power while modern cavalry has an excess of speed, and concludes that: Mobility is the "raison d'être" of cavalry; Speed alone is not mobility; Power must be added to speed—not only fire in place but moving fire; Tanks (combat cars) permit the cavalry to reassume its role of "the weapon of the high command."

(7) "La propulsion en terrain varié. La puissance tous terrains." [Propulsion on varied terrain. Cross-country power.] Lieutenant Demetz

Another of the series of technical articles on armored vehicles with some equations and drawings. Much information for designers of such vehicles and a new type of differential that appears to be more sturdy than the common type.

(8) "La menace sur Paris et le combat de cavalerie de Néry, ler septembre 1914. Récit d'un témoin." [The threat on Paris and the cavalry battle of Néry, 1 September, 1914. Account by a witness.] Capitaine de Labouchere

This account of a battle between 5,000 Germans and 1,500 English, all

cavalry, is divided into sections giving:

The retreat of the Allies and the maneuver of the German right wing.

Orders given by General von Kluck the 31st August and movements of the German First Army that day. Orders given by Marshal French the 31st August and movements of the English Army that day.

Followed by accounts of the movements:

The Cavalry Corps of von der Marwitz crosses the Forest of Compiègne and the Division of von Garnier arrives at Béthisy-Saint-Martin.

The Cavalry Division of Allenby moves to the southwest of the Forest of Compiègne.

The special situation of the English 1st Cavalry Brigade the night of 31 August, and the forces in contact.

The Battle of Néry is discussed: The terrain; The security dispositions of the English troops; The surprise of the English; The dispositions taken by General von Garnier; The attack-dispositions of the 4th Cavalry Division (German), of the brigades, and of the artillery; The dispositions taken by General Briggs; The maneuver to the north and to the south of Néry; The last German attack.

The end of the Battle of Néry is handled: The Germans abandon eleven cannons; The arrival of English reinforcements; The pursuit; The retreat of the Germans; The departure of the English from Néry; The losses.

The section on the results of the battle includes:

Von Kluck's statement that the 4th Cavalry Division was beaten by a superior force.

It took four days to get the division in shape to resume its place in the corps.

This fight enabled Maunoury's Army to gain its place secretly for the Battle of the Marne.

General von Garnier lacked imagination and a sense of terrain; he attacked frontally only against a village and plateaus holding machine guns. He should have maneuvered mounted to the flanks.

General Briggs operated from the flanks, while his center resisted bravely.

General von Garnier marched alone without liaison with the 2d and 9th Divisions.

General Briggs had close liaison and got reinforcement promptly.

But what is most striking from the point of view of the cavalryman is the complete absence of reconnaissance units among the Germans. A reconnaissance well conducted would have found the apparent contour of the enemy and the holes in his disposition: it would have found a gap of 10 kilometers between Néry and Crépy-en-Valois, and instead of persisting, without sufficient means, in futile frontal attacks, General von Garnier, advised, would have been able to break down the resistance by out-flanking it.

(9) "L'embuscade de Taguerount. Nuit du 15 au 16 janvier 1932." [The ambush at Taguerount the night 15-16 January 1932.]

A very thrilling account of the taking by a surprise rush of cavalry, of a village in an ancient chateau in North Africa, and its defense. The personal bravery of a small patrol won its members croix-de-guerres with palms, and médailles militaires. The account pictures conditions much like Indian warfare and might be valuable in instructing small units and individual soldiers.

Revue des Forces Aériennes (France)

By 1st Lieutenant M.D. Taylor

JUNE 1933

(1) "La guerre aéro-navale dans la Basse Mer du Nord en 1918." [Aero-naval warfare in the Flanders Bight, 1918.] Lieutenant Barjot

A description of the rôle of aviation in conjunction with the Allied efforts to maintain naval supremacy in the Flanders Bight and with the German challenges to that supremacy. From the activities in this restricted sea-area in 1917 and 1918 the author draws the following conclusions:

(a) In such an area, the operations of surface craft will tend to be reduced to the hours of darkness.

(b) With increased use of the submarine, aircraft will progressively increase in number and importance because of their invulnerability to the sub-surface boat.

(c) The base is the vulnerable spot of sea and aircraft. It will often be the target of the bombardment aviation.

(d) A strong pursuit aviation of either airplanes or hydroplanes are an indispensable auxiliary to surface forces attempting to maintain superiority in a limited sea area.

(2) "La physiologie et la stratosphère." [Physiology and the stratosphere.] Rosenstiel

The physiological influence of high altitudes.

(3) "Le ciel des Alpes." [The atmosphere of the Alps.] Général Benoist

A study of the meteorological conditions prevailing in the Alps.

(4) "Histoire de l'Aérostation." [History of lighter than air aviation.] (VI) Sedeyn

JULY 1933

(5) "La guerre aux bases dans la guerre maritime." [Attack on bases in naval warfare.] Lieutenant Barjot

Aviation on the high seas is bound to the surface craft which carry it. But over limited sea areas as narrow as the radius of action of an airplane, aviation will exercise a preponderant and independent influence. Surface ships, exposed to attack from the air, will spend an increasing proportion of their time in their protected bases, venturing forth only at night for specific missions. The attack and defense of these bases will be the dominant considerations of the opposing commanders. In such a maritime area, because of the interrelation of naval and air operations, a single commander should be put over this aero-maritime theater of operations to coordinate air and sea agencies.

(6) "Règle à calculs, pour le réglage des appareils photographiques d'aviation, et l'interprétation des clichés par l'observation des ombres portées." [A slide rule to aid in aerial photography and in the interpretation of photographs by a study of shadows.] Capitaine Petitot

(7) "De quelques contributions étrangères à la navigation aérienne astronomique." [Extracts from foreign contributions to the subject of astronomical air navigation.] Bastide

The review of an article by Capitaine Biseo in the August 1930 issue of the "Rivista Aeronautica."

(8) "La formation des pilotes et moniteurs de pilotage en Angleterre." [The training of pilots and flying instructors in England.] Captain Baldwin, R.A.F.

(9) "Histoire de l'Aérostation." [History of lighter than air aviation.] (VII) Sedeyn

AUGUST 1933

(10) "De la D.C.A. à l'interception." [Static antiaircraft defense versus the interception method.] Lieutenant Barjot

British experience in defending London against air attack proves the inadequacy of static means of antiaircraft defense. The most effective defense comes from friendly pursuit aviation. However, there will always be a delay before this aviation can make itself felt, a lag which is the sum of time needed to alert the pursuit landing fields plus the time for the pursuit to climb to the altitude of the enemy bombardment. This lag will be especially great if the enemy airplanes approach from the sea where warning stations can not be numerous. Necessarily the pursuit can only hope to intercept the bombing planes on their way back to their base. This method in conjunction with attacks on enemy air bases will provide the most efficient antiaircraft defense.

From these considerations results an apparent need of great horizontal speed of bombardment aviation and of great climbing speed of pursuit.

(11) "La guerre aérienne doit-elle être autonome, ou non?" [Should the war in the air be independent of that on the ground?] Capitaine Ritter

After considering the number of bombs and bomb carriers needed to destroy a series of bombardment targets (an industrial center, a railroad terminal, a column on the road, etc.), the author concludes that aviation is fully capable of destroying the industries and the sensitive points of the economic structure of the enemy. A fleet of two hundred to three hundred large bombers should have a decisive effect on the outcome of a war. The objectives of such a force should be strategical with tactical objectives (route columns, reserves, etc.) left to a medium size bomber used in small groups.

(12) "Photographie aérienne." [Aerial photography.] Robert

(13) "Histoire de l'Aérostation." [History of lighter than air aviation.] (VIII) Sedeyn

SEPTEMBER 1933

(14) "La houille blanche et nous." [Water power and aviation.] Lieutenant Marinier

A discussion of the growing menace to aviation of power lines throughout France.

(15) "L'aviation et le brouillard artificiel." [Aviation and the artificial fog over cities.] Capitaine Seive

The cooperation of aviation in studying the industrial fogs of Lyons.

(16) "Histoire de l'Aérostation." [History of lighter than air aviation.] (IX) Sedeyn

(17) "Le dirigeable est-il une arme?" [Is the dirigible a military weapon?] Oberleutnant Bernhold, German Army

The author writes in defense of the dirigible, asserting that the dirigible has a rôle which the airplane cannot fulfill. He attributes the heavy losses in German dirigibles during the war to faulty employment and mechanical defects, due to the over-rapid production in the factories. He points out that while 57% were lost, only a half of this number was due to the enemy. In exchange for these losses, the dirigible rendered valuable services over the North Sea, as it did for France over the Mediterranean.

Since the war, the many technical advances in the dirigible field have kept it abreast of the airplane and of its enemy, the antiaircraft gun. It will have an important part to play in the next war.

(18) "Sur la possibilité d'augmenter la vitesse en palier des avions de grande vitesse." [The possibility of increasing the horizontal speed of racing planes by a diving start.]

Revue d'Histoire de la Guerre Mondiale (France)

By 1st Lieutenant M.D. Taylor

JANUARY 1933

(1) "Les Etats-Unis et la première Révolution russe (Mars-Novembre 1917)." [The United States and the first Russian revolution, March-November 1917.] Pierre

A study of Russo-American relations from American state papers.

(2) "Le Sénat des Etats-Unis et le Traité de Versailles." [The United States Senate and the Versailles treaty.] Debyser

The last of a series of three articles describing the ratification battle in the Senate.

(3) "La Belgique et l'invasion allemande." [Belgium and the German invasion.] Général Galet & M. Klobukowski

Two controversial articles by M. Klobukowski, war-time French minister

to Belgium, and General Galet of the Belgian Army, regarding certain statements in the latter's book, "S.M. le Roi Albert, Commandant en chef devant l'invasion allemande" (King Albert as Commander-in-chief).

APRIL 1933

(4) "Les gouvernements et la presse pendant la guerre." [Government and Press during the World War.] Weill

The war-time press in Germany, France, and Great Britain.

(5) "L'indépendance de l'Estonie." [Estonian independence.] Leontin

The constitution of the independent Estonian state.

(6) "La documentation de guerre en Italie." [Historical sources concerning the war in Italy.] Pieri

A consideration of available sources for study of Italy's part in the World War.

JULY 1933

(7) "L'Histoire officielle de la guerre." [The official history of the War.] Général Tournès

A description of the labors of the Historical Section of the French General Staff in compiling the history of the World War which will be completed in 1934.

(8) "Souvenirs sur la Russie en guerre." [Recollections of war-time Russia.] Legras

Observations by a French officer of the Russian military organization.

(9) "Un entretien de l'Archiduc Joseph avec l'Empereur Charles I/IV." [An interview between the Emperor Charles of Austria-Hungary and the Archduke Joseph.]

An interview at Baden, 21 January 1917, as recorded in the memoirs of the Archduke Joseph.

Revue d'Infanterie (France)

By Major R.C. Smith

MARCH 1933

(1) "Un régiment d'infanterie tchécoslovaque aux combats de Vouziers (octobre 1918)." [A regiment of Czechoslovak Infantry in the combat at Vouziers, October 1918.] Général Levanier

A Czech regiment was attached to the French 134th Division, or unit in the French Fourth Army that operated west of the Argonne Forest. The operations cover the period 19-25 October 1918, fighting much the same as that

experienced by American divisions a few miles farther to the east.

(2) "Un cas concret traité sur le plan en relief." [A sand table exercise for noncommissioned officers.] Chef de bataillon Demay

A detailed explanation of a training exercise for subordinate leaders. Infantry operations are covered, beginning with the approach march and running through to defensive organization in a conquered position. The situation is laid out and points are brought out by questions and answers. Of considerable interest as a method of training and also as showing the execution for small units of the French conception of attack with emphasis always on the use of fire power.

(3) "Terrain de tir réduit pour engins." [Miniature range for artillery, infantry cannon and mortars.] Chef d'escadron Aubry

(4) "Contribution à l'étude sur l'Efficacité des tirs lointains de mitrailleuses." [Contribution to the study of the effectiveness of long-range machine gun fire.] Commandant Maffre

A study, based on experiments, of the results of long range fire. With the French Hotchkiss gun, the general conclusions are as follows:

3500 meters—fire is practically ineffective.

3000-2400 meters—with accurately located objectives or on harassing missions on sensitive areas, these fires may be quite effective. They will require considerable expenditure of ammunition and guns should be used in large groupings. Platoons or less are too small to be of value.

1800-1200 meters—the zone of greatest effectiveness. If guns are well concealed or laid for indirect fire, an area may be covered so as to give the enemy an impression that it is constantly under fire.

(5) "Allemagne: Technique de la marche." [March technique.] A series of German experiments on march capabilities of troops. Marches of 15 miles were made at the average rate of about two and three-quarters miles per hour. 25 mile marches were made at an average of about two and one-half miles per hour. It was found that short, more frequent halts gave better results than longer, infrequent halts.

(6) "Allemagne: Le franchissement de la Marne en juillet 1918." [Crossing of the Marne in July 1918.]

(7) "Allemagne: La protection anti-aérienne des colonnes." [Antiaircraft protection of columns.]

(8) "Allemagne: Un fusil-mitrailleur antichar." [An antitank automatic rifle.]

(9) "Suisse: Une étude sur la percée en montagne: Caporetto." [Breakthrough in mountainous terrain: Caporetto.] Abstract of an article on the breakthrough in mountainous terrain with special reference to the Italian disaster of Caporetto. The causes are discussed from the strategic rather than the tactical angle.

APRIL 1933

(10) "Le Soldat de l'Antiquité." [The soldier of antiquity.] Commandant de Gaulle

The author studies the psychological background of the soldier of the Greek and Roman armies. He finds that the earlier forces in each nation or city-state were citizen soldiers, drawing their force from the customs and institutions of the cities. These citizen soldiers as a rule were great fighters in defense of the home land or in the adjacent territory, but they had no great fancy for campaigns in far-off lands. It was when they were succeeded by the armies composed rather of mercenaries or professional soldiers, that the nation concerned began to branch out far afield.

The article points out that both Alexander and Caesar came to power at favorable moments in the development of the military forces in their respective countries. The soldiers of these leaders were more attached to their commander than to an ideal of patriotism for their respective nations. The article has several interesting anecdotes on the leadership of Alexander and Caesar.

(11) "Appareil de tir fictif pour engins d'accompagnement." [A device for imitating the fire of infantry accompanying weapons.] Capitaine Bacquier

The article describes a clever and valuable contrivance for imitating the fire on a reduced range or sand table, the fire of 37-mm. guns, mortars, 75-mm. guns, or perhaps even machine guns. Drawings are given for setting up the contrivance; the cost of materials is estimated at not more than \$20 or \$25.

(12) "Essais sur l'infanterie; le sens d'une évolution." [Essays on the infantry. The direction of its evolution.] Lieutenant-colonel Delmas (See abstract, page 34)

(13) "Note sur l'armement comparé de l'infanterie française et de l'infanterie allemande en 1914." [Note on the comparative armament of French and German infantry in 1914.] By "Z"

Rifles were considered equal. Machine guns were less numerous in French units and the St. Etienne gun was too delicate a piece of mechanism. The Hotchkiss guns were very few in number in 1914, although they were more reliable. The Germans appreciated more fully the capabilities of the machine gun, especially when used in flanking fire. Trench mortars and grenades were contemplated by the Germans in 1914 and were introduced into general use considerably before the French adopted them.

(14) "Le 6e Corps d'Armée à la Bataille des Frontières (22 août 1914)." [The VI Corps in the Battle of the Frontiers, 22 August 1914.] Lieutenant-colonel Thierry d'Argenlieu

Colonel Thierry d'Argenlieu presents a study of the corps commanded by General Sarrail. The meeting engagement was typical of actions that occurred that same day in other units of the French Third Army. The detailed orders and sketches make the article of great value.

(15) "Suède: Nouvel équipement de campagne de l'infanterie." [Sweden: New field equipment for infantry.] Description and photographs

(16) "Tchécoslovaquie: Engins à deux tubes d'accompagnement de l'infanterie." [Czechoslovakia: Accompanying guns with two barrels.] The Czechs have conducted experiments with several weapons that provide for antitank guns and at the same time have a heavier caliber available for use as a light mortar. The calibers tested were 44/66; 44/75; 47/75; 37/70. No definite conclusion has been reached as to the practicability of this type weapon.

(17) "Angleterre: Coopération de l'aviation avec l'armée de terre." [Great Britain: Cooperation between aviation and ground troops.]

MAY 1933

By Major W.H. Wilbur

(18) "Les Exigences de la Guerre de Matériel." [Modern war requirements.] Général Debeney

[General Debeney, formerly commander of the First Army, Commandant

at The Ecole Supérieure de Guerre and Chief of Staff of the French Army.—The eminence of the author indicates the value of this article, which is a sound discussion of the necessity for adequate national defense.]

I.—INDUSTRIAL MOBILIZATION.—General Debeney emphasizes the fact that the conduct of modern war requires an enormous amount of matériel and supplies of all kinds, that it will require time to put peace time factories on a war-production footing. He feels that the emphasis on industrial mobilization has lulled the nation into a false sense of security. This sense of security has led to inadequate peace time stocks of arms and munitions. In discussing peace time stocks, General Debeney points out the advantage that an aggressor will have over the defender. The aggressor may plan his production over a three-year period so as to have a pronounced advantage in up-to-date equipment at the time selected for aggressive action. The peaceful nation may well find itself with old-fashioned matériel, and what is equally important, its industrial mobilization will likewise be based on manufacturing equipment which is out of date. Since industrial mobilization in all nations will be much more rapid than it was in 1914, an initial advantage will not only carry with it an advantage for many months, but may determine the result of the war.

II.—THE IMPORTANCE OF NUMBERS.—Whatever the excellence of war materials or the quantity of war stocks, these inert tools are of value only in the hands of the soldiers using them. There is a great temptation to assume that the next war will find each battalion of infantry replaced by some twenty tanks and twenty airplanes, thus reducing the number of front-line combatants to a very small fraction of the number needed to constitute a battalion. No reduction in total numbers needed would be made, however, as servicing crews and supply crews would require more than the strength of one battalion. Thus substitution will not reduce the number of soldiers required. In view of the fact that the nation's existence is at stake in a war, we cannot expect the mass of the nation to sit back and look on while the small number which can be equipped with the most modern engines of war fight a gladiatorial combat to determine the winner. All the

available resources of the nation must be and will be used. Consequently, General Debeney draws the conclusion that the present system of building up a large reserve of trained men should be maintained and improved.

III.—THE FUTURE.—The normal peace time developments in industry, chemistry, electricity, and aviation may be expected to develop processes and machines of great war making capabilities. Proper preparation for war must not only be based on these developments but it must go hand in hand with them and anticipate them.

A war at any future date will have an initial stage in which pre-war organizations fight, using reserve stocks of matériel built up in time of peace. This period would last until industrial mobilization had so progressed as to produce a sufficient supply of war making matériel. Then the methods of fighting will undergo a very definite change.

This change will be most pronounced in the infantry with tanks, added accompanying weapons of all calibers, and added means of protection. But the soul of the infantryman will not change. "In war a commander should always keep his eyes fixed on the infantry; by its advances or by its losses it faithfully records the success or failure of matériel. It is the infantry which faces the realities of war, capturing or losing ground; indicating accurately by its attitude the height of the mercury in the morale barometer. In the ranks of the infantry, bent under the ever present load, lie dormant the seeds of victory, the possibilities of failure. Woe to the commander who does not know how to bend down beside the poor unknown doughboy and read the message of his eyes, listen to the beating of his heart."

The cavalry of the future will not be horse cavalry, except in the divisional squadrons. After the first few weeks the cavalry will either join the tank forces or be held in general reserve.

The artillery will be loaded down with a profusion of different types and calibers, shooting a most varied list of different types of ammunition. The greater part of the artillery will gradually slide forward to blend into the combat forces while the largest calibers remain in general reserve.

The World War brought about the union of the various arms; the next war will bring about the fusion of the

arms so that there will be a line of combat composed of an amalgamation of the most varied types of matériel served by "combattants"; not infantry, not artillery, not cavalry. This line of combat will be divided into convenient slices called regiments. Behind this forward combat line other more varied and more powerful matériel will be disposed as general reserves.

The future development of aviation cannot be predicted. We may reasonably expect that the airplane will be freed from dependence on the landing field, that speed, power, and stamina will constantly increase so that aviation has a larger and larger part in military operations.

General Debeney believes strongly in a grouping of all war making agencies, whether on land, at sea, or in the air, under one controlling head. The Army was formerly principally dependent on personnel; matériel was definitely of secondary importance. In the Navy, on the contrary, matériel has always played the most important role. Today, both the Army and the Navy and air forces as well, are highly dependent on matériel. Motors, armor, explosives, wireless, and countless other devices are common to all.

IV.—THE ESSENTIALS OF NATIONAL DEFENSE.—General Debeney sums up the essentials of National Defense as follows: (1) Adequate peace time stocks should be maintained in order to enable the Army to cover the nation during the period of industrial mobilization; (2) A large reserve of trained soldiers should be instructed and maintained; (3) A Ministry of National Defense should be organized, non-political and not subject to change when political governmental heads are changed.

(19) "Carnet d'un Combattant." [Tales of a Veteran.] Lieutenant E.R.

A brilliant series of war-time sketches, by a front-line soldier, with a great deal of sympathy for and understanding of the soldier.

(20) "La 12e Division les 21 et 22 Août 1914." [Operations of the 12th Division on the 21st and 22d of August, 1914.] Général Levanier

An article covering the operations of the French 12th Division on 21, 22 August 1914, in the Battle of the Ardennes. Copies of corps and division orders, good maps, and a comprehensive discussion of the situations make the article

both valuable and interesting. The article covers the march of the division, conduct of the march, including engagement of flank guards and a brigade attack to protect the main column, surprise and piecemeal engagement, followed by a disorganized withdrawal.

Frank discussion of the errors committed, such as failure of adjacent units to cooperate, and misunderstandings, enhances the value of this article.

(20) "L'infanterie dans la Défensive: étude d'un cas concret dans le cadre du régiment." [The infantry regiment in defense—illustrative problem.] (I) Commandant X

A map problem of standard form with a comprehensive discussion and excellent maps. The problem and solution cover the following subjects: General situation; Special situation; Mission of the division; General dispositions. Discussion and solution: Trace of the MLR; Trace of the Reserve Line; Trace of the Observation Line of the Outpost; Trace of the OPLR; Liaison between adjacent units; Mission and strength of the outpost; Mission and location of division reserves; Command posts.

(21) "Angleterre.—L'avancement dans l'armée britannique." [Great Britain: Promotion in the British Army.] Of interest to note that the British Army, with only 7,772 officers, has 6 Field Marshalls, 10 Generals, 20 Lieutenant Generals, and 70 Major Generals.

Revue de Genie Militaire (France)

By Major P.C. Bullard

JANUARY-FEBRUARY 1933

(1) "Les derniers jours de l'Ecole d'application de l'Artillerie et du Génie de Metz." [The last days of the School of Application of Artillery and Engineers at Metz.] Général Goetschy

Memories and traditions of the school in the period of its life, 1802-1870.

(2) "Le domaine défensif." [Public lands occupied by permanent defenses.]

(I) Lieutenant-colonel Thouenon

An administrative study of the procurement, maintenance, use, and disposal of public lands occupied by permanent defenses.

(3) "Quel matériel est nécessaire pour le passage des cours d'eau." [What equipment is necessary to force stream crossings?] Lieutenant-colonel Wabnitz

The author, a German, examines several actual river crossings, including

the second battle of the Marne, in July 1918, French crossings of the Aisne at Soissons on 28 August 1918, and again at Mouron on 14 October 1918, the battle of Montello (Piave River) on 15-25 June 1918, a peace-time maneuver crossing of the Doubs River by French troops about 1931, and a similar Russian crossing of Liman Gulf about 1928.

He notes the conclusion of Colonel Baills, French Army, that, as a result of German experience at the Marne the use of ponton boats instead of lighter means should be standard. Colonel Wabnitz, based largely on French experience in several of the examples cited above, attacks Colonel Baills' conclusion and supports the use of such means as the French "Habert" sack (a canvas bag filled with straw), the Russian "Poljanski" pneumatic float, kapok floats, footbridges constructed of these various floats or on small boats, and other various prepared or improvised light means of crossing. Citing the German 83% loss of ponton boats at the Marne and the French 50% loss at the Aisne near Soissons, he would not use pontoons in the early stages, reserving them until they are employed for the crossing of the artillery. The early construction of trestle or pile bridges, which are much less vulnerable, is most important.

It is concluded that troops should be equipped with bridges of light wooden boats and trestles to carry about two and one-half tons, with material to construct ferries carrying four tons, and with kapok floats for assault bridging.

(4) "Note sur les travaux de gragages exécutés en Haute-Casamance en 1907." [Notes on dredging in Upper Casamance in 1907.] Chef de bataillon Jamet

Dredging in the Cassamance River, in Senegal.

(5) "L'outil portatif universel." [A portable combination tool.] Général Clément-Grandcourt

Design and use of a tool for infantry, cavalry, and perhaps artillery, combining the uses of brush-ax, pick, spade, saw, wire-cutter, crowbar, scale, and weapon. The tool has interesting possibilities, but is probably too complicated. Apparently it has not been thoroughly tested.

MARCH-APRIL 1933

(6) "Considérations sur l'influence de la vitesse dans la guerre moderne. Quelques conséquences à en tirer pour

les sapeurs." [Influence of speed on modern warfare. Certain conclusions to be drawn therefrom for engineers.] (I) Capitaine Fadeuilhe

This installment, including the first three chapters of the article, is primarily introductory. Beginning in the Middle Ages, the author traces the use of national manpower, then shows that present plans of various nations contemplate the full use of manpower, and states that greater power must be sought through speed. Next he reviews various combat vehicles used from 4000 BC until the present time, including brief mention of a few post-war types. He concludes this installment with the anticipatory statement that the development of motorization and mechanization must profoundly affect army organization.

(7) "Le domaine défensif." [Public lands occupied by permanent defenses.] (II) Lieutenant-colonel Thouenon

(8) "Utilisation de véhicules 'Rail-route' par les sapeurs de chemin de fer." [Utilization of "Railroute" vehicles by railroad engineers.] Capitaine Beauvais
An adaptation of a standard automobile for use on rails, by adding wheels, which wheels may be removed to permit the vehicle to be again used on a highway.

(9) "Remarques au sujet de la rupture des objets solides par explosions de charges superficielles concentrées d'explosif brisant." [Breaking solid objects with concentrated surface charges of high explosive.] Chef de bataillon Chambon

The author's experience seems to contradict the soundness of some accepted practices, and he makes a tentative explanation.

Revue Militaire Française (France)

By Major C.A. Willoughby

APRIL 1933

(1) "La marche d'approche." [The development.] (I) Général Brossé

With the lesson of the catastrophic meeting engagements in 1914 (Battle of the Ardennes) in mind, this study recommends the following procedure:

(1) in proximity of the enemy, i.e., when the opposing infantry is within 20 km. and enemy long range artillery begins to be felt, development "into battalion columns, avoidance of highways"; (2) in "proximité immédiate," i.e., within

10 kms., and within effect of light and medium artillery, a change from "battalion columns into a succession of lines." The advance by bounds (phase lines) may be from 5-6 kms., in the "proximité" phase, and from 1 to 1½ kms. in "proximité immédiate." The divisional artillery should not become involved in advance guard action, or be attached to them.

Discusses attack by the enemy, including the case of mechanized forces. In that case, the development of the division must begin within a distance of 40 to 50 kms., from the enemy reported en route. The author recommends the early employment of the reconnaissance detachment, contrary to current regulations, not 4-8 kms., but at least 15 kms., in advance of the infantry. The author urges antitank weapons within the battalion, particularly against cross-country armored vehicles, light tanks, etc., which he expects to be used, habitually, in future operations. (To be continued)

(2) "Données statistiques concernant la guerre 1914-1918." [Statistical data concerning the War of 1914-1918.] (III) Lieutenant-colonel Larcher

Summary of casualties of the Central Powers based on the "Jahrbuch 1924." Summary of U-Boat losses. A monthly table of correlated offensive operations would indicate that the Austrians should have cooperated on the West Front instead of attacking on the Piave.

(3) "De la bataille de la Marne à la course à la Mer." [The battle of the Marne and the race to the sea.] (II) Capitaine Mousset

Covers the period September 21-25. Deals with the decision of Prince Rupprecht to employ the II Bavarian Corps on the right wing, instead of the left. (To be continued)

(4) "Le 15 août 1914 sur la Meuse: Combat de Dinant." [August 15, 1914 on the Meuse. Battle of Dinant.] Gay

Covers the operations of the 2d Cavalry Division and 5 Jäger battalions, in an attempt at crossing the Meuse near Dinant. Criticizes General Poseck's interpretation of this operation as a "reconnaissance in force"; the author interprets it as a distinct repulse and speculates on the possible intervention of the Cavalry Corps Sordet which missed a chance for a decisive flank attack in this particular situation.

(5) "Un passage de vive force du Rhin français en 1848." [A crossing of the Rhine in 1848.] (III) Colonel Blaison

MAY 1933

(6) "La marche d'approche." [The development.] (II) Général Brossé

Today, the divisions in the lead (first echelon) are to be regarded as "covering forces" for the Army to follow, and not capable, in view of limited artillery allotment, to carry an attack to conclusion! This offensive limitation, however, will permit of a development on broader fronts than heretofore. The author notes that Part III, F.S. Regulations, authorizes a front of 2,000 m. for advance guard battalions, which he regards as excessive and reduces to 1,500 m. since advance guard elements require some offensive power to break local resistance (Par. 145, Part III, F.S.R.). He makes certain recommendations: (a) Enemy in position: Division front, in development, 8-9 kms., with 5 or 6 advance guard battalions; (b) Enemy in movement: division front reduced to 5-6 kms., with 4 or 5 advance guard battalions, each on a front of 1,200 m.; (c) Should the division attack (exceptional) in an envelopment, for instance, then on a front of 3 kms., with 3 advance guard battalions. The author criticizes a present schematic tendency to attack, on a front of 6 kms., with 3 advance guard battalions, with systematic halts, at intervals of 3 kms. He notes that a memorandum of the G.S. warns against premature development, which is time-consuming and fatiguing, and recommends an accelerated advance, by bounds (bonds rapides) and a speedy organization of fire (système du feu).

(7) "1815-1914." [The French Army, 1815-1914.] (I) Lieutenant-colonel Pugins

Historical analysis of tactical evolution. One of the causes of the defeat in 1870 was the lack of trained reserves. The generals, trained in colonial warfare only, had experiences, in France, only in schematic maneuvers or formal tactical exercises. This seems to have led to awkward frontal attacks in the Crimea and in the war in Italy (1859).

(8) "Un passage de vive force du Rhin français en 1848." [A crossing of the Rhine in 1848.] (IV) Colonel Blaison

(9) "De la bataille de la Marne à la course à la Mer." [The battle of the

Marne and the race to the sea.] (III) Capitaine Mousselet

Falkenhayn's attempts at envelopment, from 14 to 19 September failed, because he lacked "moral authority" and had no realization of "combat conditions." This critical comment does not explain the equally unsuccessful counter-operations of Joffre in the same period.

(10) "La première poussée allemande sur Varsovie." [The first drive against Warsaw, 1914.] Général Inostrantzeff

A Russian critique of Ludendorff's "desperate attempt" against Warsaw, in the period September 13 to November 27, 1914. Ludendorff's account is characterized as "untrue."

By Major R.C. Smith

JUNE 1933

(11) "La manoeuvre défensive." [The defensive maneuver.] (I) Général Loizeau

This is the first installment of an article continuing the study of maneuver begun in the author's series on "Wing Maneuvers." (See RML, No. 50.) This first chapter discusses defensive maneuver in the past.

It has become commonplace to say, as does the French F.S.R. of 1895, "The passive defense is doomed to certain defeat; it is to be absolutely rejected."

Such a statement was the result of the teachings of a recent experience in which the French Army had lost a war by attempts at purely offensive actions.

On the eve of the Great War, the manual for the conduct of large units (28 Oct. 1913), raised a voice against the theories which had grown up, on the inviolability of fronts and the possibility of gaining the decision by maneuver without combat, and prescribed the offensive as the *only* form of maneuver: "The French Army," it is said in the report to the Minister of War, "returns to its traditions; it does not admit the existence of any other rule for the conduct of operations, than the offensive." For the large units, army and group of armies, no reference was made to defensive action. For the corps, it was conceded that defensive action might be considered, but only for holding a front with minimum force to mass greater force for attacks at other places.

The results of this doctrine are well known. Marshal Foch gives a resumé of war experience when he says: "The

high command must thoroughly understand the strength and weakness of the offensive and the defensive, as well as their capabilities; it is only by a wise combination of the two systems that there may be developed a powerful offensive at a desired point. This obligation increases with the number of troops engaged."

Defense in depth was developed along these lines:

1. A first line consisting of natural strong points held by units with the mission of resisting in place.

2. In rear, a second line, organized in advance, on which the advance may be checked in case the enemy breaks the first line.

3. A reserve, as large as circumstances permit, and held mobile.

THE MODERN DEFENSIVE MANEUVER

A.—THE NATURE OF THE MANEUVER

Placing ourselves in objective viewpoint which governs this study, we picture the initial phase of a war of movement between two free adversaries, unhampered by terrain, with the means, personnel, and material with which they will be able to carry on during the first months of a campaign.

In such a situation, the object of offensive maneuver—the destruction of the enemy—can only be attained by attacks undertaken on fronts proportionate to the means; this means on fronts much narrower than the whole front of action. In other words, one cannot attack everywhere; however strong the offensive spirit, there always and necessarily will be defensive fronts.

Thus the maneuver is a unified conception and includes at the same time, and through all echelons, a mixed attitude of offense and defense.

Defensive maneuver has no other purpose than to assist the offensive maneuver and its conduct varies according to whether or not the commander retains the strategic initiation.

If the commander has the choice at the time of his decision, the most frequent case in unrestricted terrain will be that of a strategic unit engaging in battle in a given direction on a front proportionate to the maximum of his means and maintaining a defensive attitude on the remainder of the front with the minimum forces.

B.—ELEMENTS OF DEFENSIVE MANEUVER

In case of prolonged resistance a battalion can cover about 1000 meters. This calls for ample effectives.

In case resistance is necessary for limited periods, the front for a battalion can be extended to 2000 meters and still permit a continuous automatic weapon barrage to be established.

The exercise of command and the organization of fire both in breadth and depth must be assured.

The author discusses the methods of defensive maneuver with many references to historical examples. (To be continued)

(12) "1815-1914." [The French Army, 1815-1914.] (II) Lieutenant-Colonel Pugens

Colonel Pugens discusses the War of 1870 and its influence on the opening operations in 1914. He discusses relations between policy and strategy, and between soldier and statesman. In military methods, the Germans developed a tendency to foster too great independence for subordinate commanders. The German failure at the Marne can be traced back to the excessive independence of army commanders and their failure to accede to control by the high command.

(13) "De la bataille de la Marne à la course à la Mer." [The battle of the Marne and the race to the sea.] (IV) Capitaine Mousset

A brief discussion, from the larger strategical viewpoint, of operations at St. Mihiel and on the west wing in September 1914.

(14) "Un passage de vive force du Rhin français en 1848." [A forced crossing of the Rhine in 1848.] (V) Colonel Blaison

Concluding installment of this operation.

(15) "Essai sur le renseignement à la guerre." [Essay on information in war.] (I) Colonel Bernis

A study that brings out the importance of considering an enemy's capabilities rather than attempting to guess his intentions.

Rivista di Artiglieria e Genio (Italy)

By Captain Fred During

JANUARY 1933

(1) "Recenti progressi nel secondo problema balistico." [New development

in the calculation of the second ballistic problem.] Burzio

A new method of calculation based on the rotation of the piece and the consequential deviation from the line gun target.

(2) "Tiro ed impiego dell'artiglieria." [Artillery fire and employment.] Geloso

The author demands a thorough knowledge of the artillery weapons by all officers. Only such knowledge will bring about the desired artillery-infantry team. He pictures the characteristics of artillery by historical examples prior to and including the last war. Observed artillery fire (ground and air) is the most effective method, especially at the beginning of a battle in a war of movement. Firing from the map may replace observed fire, when there is a lengthy lull in the battle, and when time is not an important factor. In such case we have the disadvantage of a large expenditure of ammunition. In firing from a map the following are important factors: (1) Careful topographical preparation (if this is not possible, it is better to give up map firing); (2) Meteorological and other special conditions which have an influence on firing; (3) Excellent communication system; (4) Maps of 1:50,000 and smaller. Mobility and flexibility are the earmarks of modern artillery.

(3) "Tecnicismo e guerra futura." [Mechanization and the next war.] Cappuccini

Developments of mechanization by the principal armies, prior, during, and after the World War are presented. The author makes an interesting comparison of the military budgets of first class nations. General Baistrochi is quoted as having said that it is an error to believe that machines will assume the value of the soldier; on the contrary, it is the spirit of the fighters which will overcome and master machines. In conclusion the author states that the progress of mechanization cannot be stopped; that a nation should give the soldier the best matériel available, if she expects a first class defense; that it is far better to have a few soldiers, who are properly equipped and trained, than to have a large army of harmless boys; that matériel in its modern form must be included in the defense of the nation and that all leaders must place technique and matériel on a par with tactics.

(4) "Il Genio ferroviario." [Railroad troops.] Bellucci

FEBRUARY 1933

(5) "Impiego di un reggimento d'artiglieria pesante campale nell'avvicinamento." [Employment of a regiment of heavy artillery in the approach and battle.] Laviano

(6) "La radiotelemeccanica." [The radio-telemechanics.] Gatta

The author describes first some of the latest developments in radio-telemechanics and then discusses the ways in which they can be adopted for military purposes, such as having a motor boat, an aeroplane, or an armored car controlled in such a way as to drop a charge of explosives on a particular point. The author believes that the control of tanks or armored cars is very promising.

(7) "Attività del genio militare nella Cirenaica." [The work by military engineers at Cyrenaica.] Policardi

(8) "Concezioni tattiche sull'impiego dei carri armati." [Foreign tactical conceptions of the employment of tanks.] By "Br."

The author deals with the tactical employment of tanks, quoting from articles in various foreign journals.

Royal Air Force Quarterly (Great Britain)

OCTOBER 1933

(1) The principles of war and the R.A.F.—Concentration. Wing-Commander Howard-Williams

(2) Means and the man. By C.E.H.M.

(3) The Royal Australian Air Force

(4) The defensive powers of bomber aircraft. By "Format"

Royal Army Service Corps Quarterly (Great Britain)

MAY 1933

(1) The Royal Army Service Corps and its training objectives

(2) Some recent changes in the organization for ammunition supply

(3) The principles of maintenance of R.A.S.C. M.T. units in the field

(4) The Army and its petrol requirements in war

(5) The organization and operation of a heavy repair shop on a temporary basis in the field

(6) The dropping of supplies by aircraft

(7) The operation of vehicle collecting centres in war

(8) Co-operation and the training of the R.A.S.C. for war

(9) Forage requirements during sea transit

(10) The organization of the R.A.S.C. in the Territorial Army

(11) The supply and transport directorate in the field. (At formation H.Q.s. and on the L. of C.)

(12) The cold storage problem in the field

Royal Engineers Journal (Great Britain)

DECEMBER 1933

(1) The diary of an R.E. subaltern with the B.E.F. in 1914. Major Young

(2) The crossing of the Ru-Kuchuk. Operations against Sheikh Achmed of Barzan, Kurdistan, 1932. Major Clark

(3) A staff exercise in Belgium. Captain Shortt

(4) Drainage of a section of the trench area: France, 1915-16. Perrott

Royal Tank Corps Journal (Great Britain)

OCTOBER 1933

(1) The origin of the tank! Swinton

NOVEMBER 1933

(2) Manoeuvres in Egypt. The battle of Geran-el-ful. By "Old Danesian"

DECEMBER 1933

(3) The problem of dealing with casualties in a force of armoured fighting vehicles. Major Lindeman

(4) Tank inspection. Captain Clarke

Signal Corps Bulletin

SEPTEMBER-OCTOBER 1933

(1) Signal communication between the headquarters staffs during the warfare of movement in 1914. Lieut. General Schniewindt

(2) Division Signal and Liaison School, Eighty-first Division, Camp Jackson, Columbia, S.C. Lieut. Colonel Van Horn

(3) Arms and the celluloid. Captain Hoorn

NOVEMBER-DECEMBER 1933

(4) Signal operations in the defense forces (Red) during the joint anti-aircraft-Air Corps exercises, Fifth Corps Area, May 1933. Major Bender

(5) Signal communications in the First Pursuit Group during the joint anti-aircraft-Air Corps exercises, Fifth Corps Area, May 1933. Lieutenant Doubleday

(6) The possibility of attaining strategic or tactical surprise in a landing on hostile shores, and methods to be employed. Captain Cansler

(7) The contribution of the Cryptographic Bureaus in the World War. (I) Gylden

Wehr und Waffen (Germany)

By Captain Fred During

JANUARY 1933

(1) "Der österreichische Kampfwagen Muster 1911." [The Austrian tank, Model 1911.] Major General Kerchnawe

(2) "Artillerie beschieszt eigene Truppen." [Artillery shelling their own infantry.] Colonel Blümner

The author classifies instances due to undue dispersion caused by worn barrels, those due to the undue dispersion of inferior ammunition of war-time manufacture, those due to gunnery mistakes, and those arising from the artillery's lack of information as to the position of the most advanced infantry.

(3) "Vom Uhrwerkszylinder und seiner Entwicklung." [The clockwork fuse and its development.] Major Weidinger

(4) "Das Maschinengewehr S 2-200." [The machine gun S 2-200.] Major Däniker

(5) "Über ein kombiniertes Schienen- und Wegefahrfahrzeug." [A combined railroad and road vehicle.] By "R.L."

(6) "Der Selbstanschlussbetrieb und die Truppe." [The automatic telephone and the army.] (I) Major v.Dufais

FEBRUARY 1933

(7) "Über die Annäherung der Flugbahn durch eine kubische Parabel und ihre Verwendung bei der Herstellung von Flakschutztztafeln." [The use of a cubic parabola in the preparation of anti-aircraft fire tables.] Hänert

(8) "Taktische Anschauungen über Artillerieverwendung in der Roten Armee." [Tactical views on the employment of artillery in the Red Army.] (I) Lieutenant Freytag

The Russians don't seem to know the higher artillery commander. The artillery commander of the division or corps is found among the brigadiers of the light or heavy artillery brigades. In battle the artillery is divided into two classes, "D D" or long range, or "P P" or infantry supporting. D D is normally corps artillery. The P P must work directly with the infantry and batteries and battalions of the P P group receive

their missions from the infantry (battalions or company) commanders. (To be continued)

(9) "Der Selbstanschlussbetrieb und die Truppe." [The automatic telephone and the army.] (II) Major v.Dufais

(10) "Die englische Heeres-Eisenbahn Longmoor." [The British military railway at Longmoor.] By "W."

(11) "Das Kriegsvermessungswesen der Franzosen in Nordost-Frankreich 1914-1918." [The French War Survey Department in Northeast France, 1914-1918.] (I) Meyer

Wissen und Wehr (Germany)

By Captain F. During

MAY 1933

(1) "Die Großluftmacht Frankreich." [The great air power of France.] Major v.Bülow

The author discusses the strength of France in aviation as a danger of war and laments the fact that Germany is prohibited, under the provisions of the Versailles Treaty, from having an air force in order to defend itself.

(2) "Wehrpolitische Gedanken über Spanien." [Thoughts about the defense of Spain.]

This article is based on the theme, that "a nation will only be respected, if she can demand respect." He divides Spain into military areas similar to our own corps areas and gives the organization of the army and navy of Spain under the new regime.

(3) "Konkrete Bildung in der Heeresfachschule." [Education in the special schools of the army.] Hegenwald

(4) "Nachschub." [System of supply.] Generalmajor Soldan (See abstract, page 38)

JULY 1933

(5) "Die französischen Manöver in der Champagne im September 1932.—Exercices combinés." [The French Maneuvers in Champagne in September 1932.] (See abstract, page 5)

(6) "Einige Gedanken zur Seemachtlage." [A few thoughts about the naval situation.] Konteradmiral Gadow

A comparison of the navies of the great powers and an academic discussion of the possibilities of war between France and Italy, France and England, and America and Japan. "The surest way to peace lies in a healthy naval parity."

(7) "Kriegsverluste und Ersatz." [War casualties and replacements.] Oberstabsarzt Adam

Under the term of "war casualties" we classify all members of an army in the Theater of Operations which have become ineffective either permanently or temporarily. Above casualties are classified under two headings (see TABLE 5): (1) Losses due to actual contact with the enemy, such as, dead, wounded (including shell shock and gas cases), missing and men taken as prisoners (see TABLE 1). (2) Losses due to sickness and accidents.

In spite of the fact that the World War was free from epidemics, the number of sick is considerably greater than the number of men who became ineffective at the front (see TABLES 1, 4, 5, 6).

Only if we consider individual battles do we see a change in this comparison. In the battle of the Somme (July 1-29, 1916) the English had for 1 sick, 4.6 wounded. Generally speaking, the ratio in the English army between wounded, etc., and sick, was 1 to 2, with the exception of the front in Flanders, where the ratio was 1 to 1.31.

In East Africa on the Lettow-Vorbeck front, the ratio among 700,000 evacuations was 1 to 31.4 (officers 1 to 14.7, enlisted men 1 to 32.6, lines of communication 1 to 140.9). An explanation for the difference in this ratio is found in the climate, system of fighting, and organization of the forces. The difference between the lines of communication and the front line troops on the Flanders front in 1918 was 5.8%, against 74% in 1917 and 68% in 1918 in East Africa.

A decrease in the number of evacuations was noticeable the longer the war lasted. The reason for this is that troops became hardened and used to hardships of war; leaders of small and larger units learned how to handle their units; evacuation and hospitalization became more efficient as the war went on. On the Flanders front the sick report of the English army was in 1914, 2.6 per thousand and in 1918, 1.6 per thousand of the front line troops. We can count, at the beginning of a European war, on having a sick report of 3 per thousand of the effectives, 2/3 of whom will go to the hospital. The increase in the total number of evacuation in the English army in 1918, as shown in TABLE 1, is due to the Ger-

man attacks in the spring of 1918, and the then prevailing grippé.

The question of how many of the total losses became a permanent, and how many only a temporary loss is important. The dead, missing, prisoners, and totally disabled come under the heading of permanent losses. On the Flanders front the ratio between permanent and temporary losses was 14 to 86, or 1 to 6. The total losses on this front amounted to 6,218,540; the dead amounted to 6.13%. Medical attention was given to 5,517,455, 3% of whom died, 90% were returned to the front, 5% were sent home, being disabled, and 2% for other reasons. 4% of English prisoners in German hospitals died in 1914, 2.8% in 1915, 2.6% in 1916, and 2.8% in 1917.

While above figures are very favorable, we must remember that v. Clausewitz said: "He who places his strength at a place where there is no enemy, or lets his troops march (thereby making them ineffective), handles his troops poorly." We have to count all persons in hospitals, etc., or en route to or from there as ineffective. 5½ million men of the English army received medical attention; 5 million were returned to duty; and 4.3 million of the 5 million to front line duty. One day less in hospitals will tremendously lessen the number of ineffective, and it is here that we can make some improvements by having better and faster means of transportation, more efficient hospitals, better treatment of the sick and wounded, and an efficient system of evacuation.

The sick and wounded should never be sent farther back to the rear than is necessary for proper treatment, and establishments near the front should be provided for, where men who are about to go to duty can convalesce. The English were very successful with such convalescent depots. The average number of effectives on the Flanders front in 1918 was 1,989,374—91% of these, or 1,808,490, received medical attention. 90% were returned to duty, 78% of which were returned to the front. In 1918 the German effectives amounted to 5,815,079. Figuring mathematically, we find that about 12,700 men were returned daily from hospitals. This was approximately the strength of one division. Most of these men were veterans who had participated in several engagements.

In a war lasting several years, every man becomes a casual once a year. In the beginning of a war this figure is somewhat higher and towards the end, lower. In the German army evacuation of sick and wounded was higher than in the English army, but the number of dead was less.

An army which would receive no replacements from home or have no sick and wounded returned to it, would, within a year, cease to exist. As an example of this, we wish to cite Napoleon's march to Moscow. At the crossing of the Njemen in July 1812, Napoleon's center was 301,000 strong; in September it had decreased by 198,000 men, a loss of 65% in 3 months. Had the march continued for two more months, Napoleon would have been without an army. Napoleon had made provisions for a replacement of 100,000 men, but on account of the rapid march only comparatively few reached the main column. Based on the experiences of the World War, we have to count on 1/7 of the total strength for replacements. We have also to consider the difference in losses between officers and men. In the English army the ratio between dead and sick among officers was 1 to 1.52, among the men, 1 to 2.13, and the ratio between dead and wounded among officers was 1 to 3.59 and among men, 1 to 5.30. One officer died of each 95.50 who received medical attention on account of sickness, and one man died of each 53.90. In 1915 of each 1000 officers on the Flanders front, 51 were in hospitals, and of each 1000 men, 105. The average time spent in hospitals was 22 days for officers and 32 days for men. A short comparison of the peace-time armies may be in place. In 1928 the sick report in the German army amounted to 1094 per 1000 of the effective strength, and in the English army, 1191, but only 268 per 1000 in the German army and 296 per 1000 in the English army were treated in hospitals. In war many men enter hospitals who in time of peace are treated in dispensaries, etc.

TABLE 1

ENGLISH ARMY

AVERAGE MONTHLY EVACUATION ON THE FLANDERS FRONT PER 1000 EFFECTIVES

Year	1914	1915	1916	1917	1918
Dead.....	12	6	7	6	3
Wounded.....	54	30	31	24	26
Sick, etc.....	71	73	40	44	50
Missing and Prisoners.....	24	3	3	2	7
TOTAL.....	161	112	81	76	86

In 1914 the average was based on 5 months; in 1918 on 12 months.

TABLE 2

GERMAN ARMY

Year of War	Dead	Miss- ing and Pris- oners	Hospi- tal Ad- mit- tance	Gas Pa- tients
First.....	92 (116)	78	1533
Second.....	47.5 (67)	33	1188.5	1.5
Third.....	37 (59)	42	1011	3.8
Fourth.....	36 (61)	31	1106	10.6

The figures in parentheses are for the troops on the west front and are more accurate than the ones for the entire field army.

TABLE 3

ENGLISH EVACUATIONS ON THE FLANDERS FRONT PER 1000 EFFECTIVES

Year	Total Evacu- ations	Hospital Admit- tance	Dead
1915.....	1348	1237	100
1916.....	969	856	112
1917.....	910	816	96.5

TABLE 4

ENGLISH ADMITTANCE ON THE FLANDERS FRONT PER 1000 EFFECTIVES

Year	Wounded	Sick, etc.
1915.....	362	875
1916.....	374	482
1917.....	287	529

TABLE 5

ENGLISH TOTAL LOSSES IN FLANDERS PER
1000 EFFECTIVES

	Officers	Men	Total
Battle casualties.....	579	489	492.5
Sick, etc.....	620	648	647
TOTAL.....	1199	1137	1139.5

TABLE 6

GERMAN ARMY ON THE WESTERN FRONT
PER 1000 EFFECTIVES

Year	Wounded	Sick	Hospital Admit- tance	Dead
1915.....	298.5	922	1221	76.5
1916.....	326	889	1215	71
1917.....	227	748	975	49

(8) "Frankreichswirtschaftliche Kriegs-
bereitschaft bei Ausbruch des Welt-
krieges." [French industrial prepared-
ness at the beginning of the World War.]
Pantlen

SEPTEMBER 1933

(9) "Österreich-Ungarns Heer im Gros-
zen Kriege." [The Austro-Hungarian
Army in the World War.] v.Schäfer

(10) "Altösterreichs Heer in der deut-
schen Geschichte." [The Army of old
Austria in the history of Germany.]
v.Glaise-Horstenau

(11) "Erinnerungen an mein Kom-
mando zum k.u.k. Oberkommando."
[Recollections of my detail at the Austrian
high command.] Oberstleutnant Fleck

(12) "Die Neugliederung der schwei-
zerischen Armee." [The new organiza-
tion of the Swiss Army.]

(13) "Die italienischen Groszen Manö-
ver 1932." [The Italian maneuvers in
1932.] (See abstract, page 22)

Foreign Affairs

OCTOBER 1933

(1) The "New Spirit" and its critics.
Baker

(2) After the World Economic Con-
ference. Layton

(3) Indications of world recovery.
Scroggs

(4) Revolution in Cuba. Manach
(5) The sale of the Chinese Eastern
Railway. Wang

(6) Economic consequences of Japan's
Asiatic policy. Orchard

(7) Kossuth and the Treaty of Tri-
anon. Jászi

(8) Fascist economic policy and the
N.R.A. Welk

(9) Salvaging the debts of Eastern
Europe. Roosevelt

(10) A new Polish Corridor. Vollmer

Foreign Policy Association: Foreign
Policy Reports

11 OCTOBER 1933

(1) The Jews in the Third Reich

25 OCTOBER 1933

(2) The disarmament crisis, 1933

8 NOVEMBER 1933

(3) The work of the London Economic
Conference

22 NOVEMBER 1933

(4) The Montevideo Conference and
the Latin American policy of the United
States. Buell

6 DECEMBER 1933

(5) The Balkans in the world crisis.
Ingalls

20 DECEMBER 1933

(6) Spain under the Republic. Diffie

International Conciliation

OCTOBER 1933

(1) Recent policies of non-recognition.
Hill

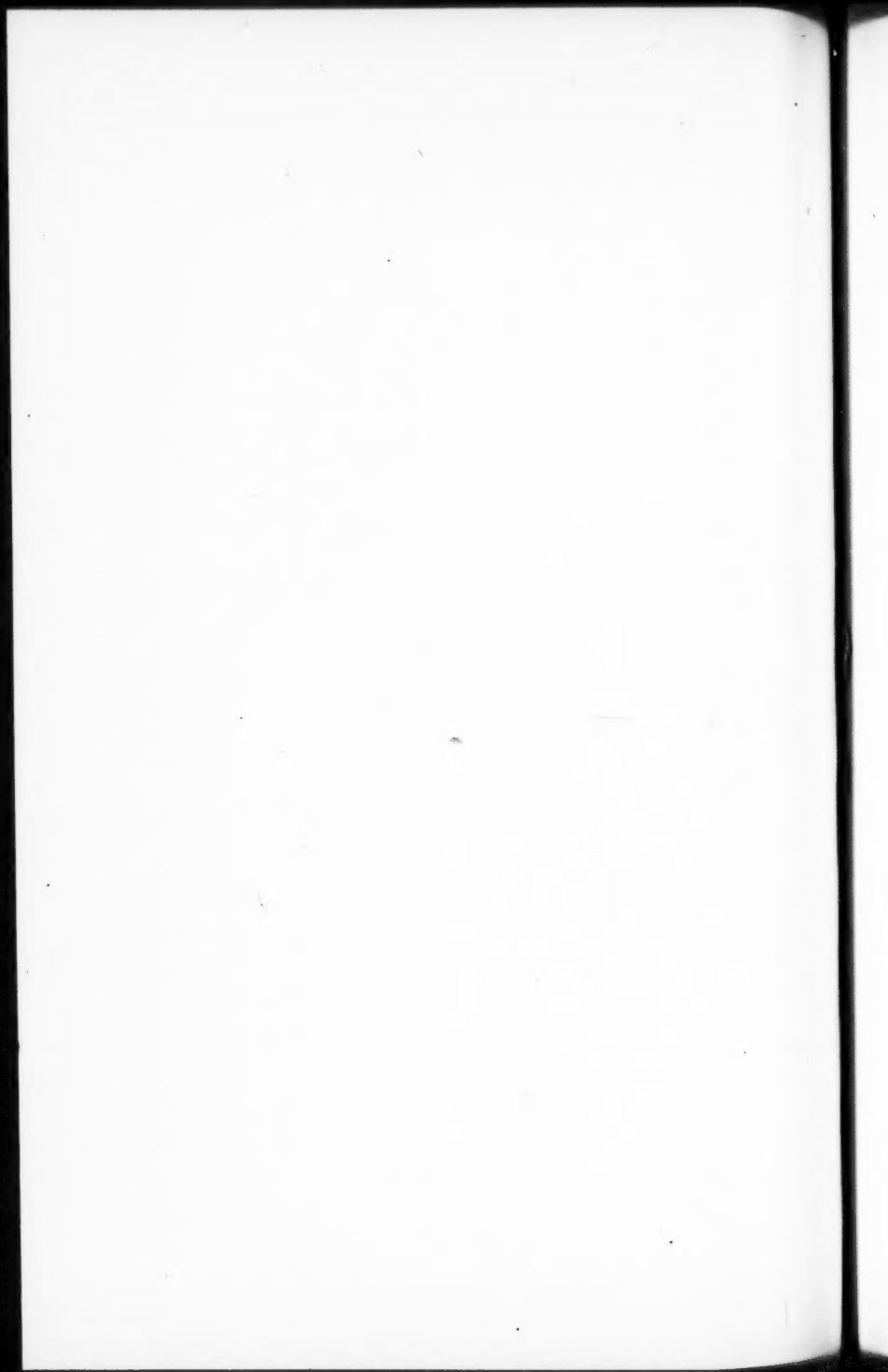
NOVEMBER 1933

(2) War debts. Gideonse & Brant

Journal of Modern History

DECEMBER 1933

(1) Studies of World War propaganda,
1914-33. Lutz



Section 8

READERS' GUIDE AND SUBJECT INDEX

- A**
- Air Arm
 - Ammunition
 - Animals
 - Antiaircraft Artillery
 - Antiaircraft Defense
 - Antigas
 - Antitank
 - Applicatory Exercises
 - Armaments
 - Armies (See country)
 - Command & Staff
 - Mobilization
 - Organization & Equipment
 - Training
 - Armored Cars
 - Art of War Strategy
 - Artillery (Other Arms, similarly)
 - Command & Staff
 - Organization & Equipment
 - Training Tactics
 - Attack
- B**
- Breakthrough Operations
- C**
- Camouflage
 - Cavalry
 - Chemical Warfare Service
 - Civilian Conservation Corps
 - Coast Artillery
 - Command, Staff & Logistics
 - Counterattack
- D**
- Defiles
 - Delaying Action
 - Disarmament
- E**
- Engineers
 - Envelopment
 - Equitation
- F**
- Fire Superiority
 - Flank Operations
 - Formations, Battle
 - Fortifications
 - France (Army of)
 - Future Warfare
- G**
- Gas & Smoke (Use of)
 - Geography (Military)
 - Germany (Army of)
 - Government (Military)
 - Great Britain (Army of)
- H**
- History (General)
 - Hygiene
- I**
- Infantry
 - Intelligence (Military)
 - International relations
 - Italy (Army of)
- J**
- Japan (Army of)
 - Joint Operations
- K**
-
- L**
- Large Units, Organization & Tactical Functions (Army, Corps & Division)
 - Law, Military & International
 - Liaison
- M**
- Machine Guns
 - Maneuvers
 - Map Problems
 - Marches
 - Marine Corps
 - Mechanization
 - Mechanized Forces
 - Medical Service
 - Meeting Engagement
 - Mobilization
 - Motorization
- N**
- National Defense
 - Naval Warfare
 - Navies (See country)
 - Night Operations
- O**
- Obstacles
 - Ordnance Service
 - Organization
 - Overseas Expeditions
- P**
- Penetration
 - Position Warfare
 - Principles of War
 - Pursuit
- Q**
- Quartermaster Service
- R**
- Raids
 - Riots
 - River Crossings
- S**
- Security
 - Signal Service
 - Special Warfare
 - Supply
- T**
- Tactics Operations
 - Evolution of Tactics
 - General topics
 - Defensive combat
 - Offensive combat
 - Reconnaissance
 - Special warfare
 - Troop movements
- U**
- Tanks
 - Technology
 - Terrain
 - Topography Surveying
 - Transportation
 - Turning Movements
- U**
- United States (Army of)
- V**
- Veterinary Service
- W**
- War Peace
 - Wars (Ancient, Medieval, Modern)
 - World War
 - E—General Military History
 - F—Zone of Interior
 - G—Arms & Services
 - H—Military Conduct of the War in the Field
 - J—Campaigns & battles
 - L—Naval History
- X**
-
- Y**
-
- Z**
-

List of Periodicals Indexed

and

Key to Abbreviations

A&N Jour —Army & Navy Journal	Nav Inst Proc —Naval Institute Proceedings
A&N Reg —Army & Navy Register	QM Rev —Quartermaster Review
AN&AF Gaz —Army, Navy & Air Force Gazette (Great Britain)	Rev Est Mil —Revista de Estudios Militares (Spain)
A Ord —Army Ordnance	Rev Ej Mar —Revista del Ejercito y de la Marina (Mexico)
A Quar —Army Quarterly (Great Britain)	Rev Mil —Revista Militar (Argentina)
Bul Belge Mil —Bulletin Belge des Sciences Militaires (Belgium)	Rv d'Art —Revue d'Artillerie (France)
Can Def Quar —Canadian Defence Quarterly (Canada)	Rv de Cav —Revue de Cavalerie (France)
Cav Jour —Cavalry Journal	Rv F Aer —Revue des Forces Aériennes (France)
Cav Jour [GB] —Cavalry Journal (Great Britain)	Rv d'Hist —Revue d'Histoire de la Guerre Mondiale (France)
Cav Sch ML —Cavalry School Mailing List	Rv d'Inf —Revue d'Infanterie (France)
Chem War —Chemical Warfare	Rv Gen Mil —Revue de Génie Militaire (France)
CA Jour —Coast Artillery Journal	Rv Mil Fran —Revue Militaire Française (France)
Es e Naz —Esercito e Nazione (Italy)	Riv Art e Gen —Rivista di Artiglieria e Genio (Italy)
FA Jour —Field Artillery Journal	Roy AF Quar —Royal Air Force Quarterly (Great Britain)
Ftg Forc —Fighting Forces (Great Britain)	Roy A Serv C Quar —Royal Army Service Corps Quarterly (Great Britain)
Inf Jour —Infantry Journal	Roy Eng Jour —Royal Engineers Journal (Great Britain)
Int Sum [WD] —Intelligence Summary (War Department)	Roy Tk C Jour —Royal Tank Corps Journal (Great Britain)
Jour R Art —Journal Royal Artillery (Great Britain)	SC Bul —Signal Corps Bulletin
Jour RUSI —Journal of the Royal United Service Institution (Great Britain)	Wr & Wf —Wehr und Waffen (Germany)
Jour USII —Journal of the United Service Institution of India (Great Britain—India)	Ws & Wr —Wissen und Wehr (Germany)
MC Gaz —Marine Corps Gazette	For A —Foreign Affairs
Mil Mitt —Militärwissenschaftliche Mitteilungen (Austria)	For Pol Rep —Foreign Policy Association: Foreign Policy Reports
Mil-Woch —Militär-Wochenblatt (Germany)	Int Con —International Conciliation
Mil Eng —Military Engineer	Jour Mod Hist —Journal of Modern History
Mil Surg —Military Surgeon	

Jan—January
Feb—February
Mar—March
Apr—April
May—May
Jun—June

Jul—July
Aug—August
Sep—September
Oct—October
Nov—November
Dec—December

A

ADDRESSES (MILITARY)

- Public speaking. (Jour RUSI—Aug 1933)
- America's peace insurance. (A&N Jour—25 Nov 1933)
- Communications control in war. (A&N Jour—16 Dec 1933)
- The War Department General Staff. (A&N Jour—30 Dec 1933)

AERIAL WARFARE

- Aerial warfare. (Rev Mil—May 1933)
- Should the war in the air be independent of that on the ground? (Rv F Aer—Aug 1933)
- Aerial warfare—principles of air combat. (Rev Ej Mar—Jun 1933)

AERONAUTICS

- Relation of civil and military aviation. (Rev Est Mil—May 1933)
- The hazard of human flight. (MC Gaz—Nov 1933)

AIR ARM

Command and Staff

- Relation of civil and military aviation. (Rev Est Mil—May 1933)
- Aviation and the principles of war. (Rev Mil—Jun 1933)
- Water power and aviation. (Rv F Aer—Sep 1933)
- An international air force. (AN&AF Gaz—14 Dec 1933)
- Civil defense against aircraft. (Mil-Woch—18 Jul 1933)
- Hot air in cold blood. [See Section 4]

Organization and Equipment

- The Royal Australian Air Force. (Roy AF Quar—Oct 1933)
- The defensive powers of bomber aircraft. (Roy AF Quar—Oct 1933)
- France: Air Force constitution bill. (Jour RUSI—Aug 1933)
- Great Britain: Royal Air Force. (Jour RUSI—Aug 1933)
- Germany: The formation of the German Air Ministry. (Jour RUSI—Aug 1933)
- Japan: Official pronouncements on Air Defence. (Jour RUSI—Aug 1933)
- Some little known phases of Marine Corps aviation. (MC Gaz—Nov 1933)
- Air bombing and air disarmament. (A Quar—Oct 1933)
- United States: Motorized observation balloons. (Rv d'Art—Oct 1933)
- History of lighter than air aviation. (Rv F Aer—Jun, Jul, Aug, Sep 1933)
- Is the dirigible a military weapon? (Rv F Aer—Sep 1933)
- Aircraft-carriers and flying-boats. (AN&AF Gaz—28 Sep 1933)
- Aircraft strength—A British analysis. (AN&AF Gaz—16 Nov 1933)
- The silencing of aircraft. (AN&AF Gaz—30 Nov 1933)
- The dropping of supplies by aircraft. (Roy A Serv C Quar—May 1933)
- The great air power of France. (Ws & Wr—May 1933)

Training Tactics

- Air maneuvers on the West coast. (CA Jour—Sep-Oct 1933)
- The principles of war and the R.A.F.—Concentration. (Roy AF Quar—Oct 1933)
- Means and the man. (Roy AF Quar—Oct 1933)
- Air defence. (Jour RUSI—Aug 1933)
- Japan: Official pronouncements on Air Defence. (Jour RUSI—Aug 1933)

Aerial bombardment. (A&N Jour—11 Nov 1933)

The role of defensive pursuit. (CA Jour—Nov-Dec 1933)

Aerial bombardment of fleet bases. (Nav Inst Proc—Oct 1933)

Signal operations in the defense forces (Red) during the joint antiaircraft-Air Corps exercises, Fifth Corps Area, May 1933. (SC Bul—Nov-Dec 1933)

Signal communications in the First Pursuit Group during the joint antiaircraft-Air Corps exercises, Fifth Corps Area, May 1933. (SC Bul—Nov-Dec 1933)

Air bombing and air disarmament. (A Quar—Oct 1933)

Physiology and the stratosphere. (Rv F Aer—Jun 1933)

The atmosphere of the Alps. (Rv F Aer—Jun 1933)

Attack on bases in naval warfare. (Rv F Aer—Jul 1933)

A slide rule to aid in aerial photography and in the interpretation of photographs by a study of shadows. (Rv F Aer—Jul 1933)

Extracts from foreign contributions to the subject of astronomical air navigation. (Rv F Aer—Jul 1933)

The training of pilots and flying instructors in England. (Rv F Aer—Jul 1933)

Should the war in the air be independent of that on the ground? (Rv F Aer—Aug 1933)

Aerial photography. (Rv F Aer—Aug 1933)

Aviation and the artificial fog over cities. (Rv F Aer—Sep 1933)

The possibility of increasing the horizontal speed of racing planes by a diving start. (Rv F Aer—Sep 1933)

Night aerial photography. (A&N Jour—16 Dec 1933)

Aircraft and coast defence. (AN&AF Gaz—21 Sep 1933)

Air power and coast defence. (AN&AF Gaz—21 Dec 1933)

Ground glare from aircraft. (Mil Eng—Nov-Dec 1933)

Considerations relative to active defense against low-flying aircraft. (Bul Belge Mil—Aug 1933)

Maneuvers of Russian and Japanese air fleets. (Mil-Woch—25 Aug 1933)

ANIMALS

An eye for a horse. (Cav Jour [GB]—Oct 1933)

Breeding (horse) in Poland. (Rv de Cav—Jul-Aug 1933)

The horse as a means of transportation superior to the motor for South America. (Rev Mil—May 1933)

The horse. (Rv Ej Mar—Mar 1933)

ANTIAIRCRAFT ARTILLERY

Portugal: Antiaircraft material. (Rv d'Art—Aug 1933)

Antiaircraft artillery during the war. Evolution of firing methods. (Rv d'Art—Sep 1933)

Signal operations in the defense forces (Red) during the joint antiaircraft-Air Corps exercises, Fifth Corps Area, May 1933. (SC Bul—Nov-Dec 1933)

Signal communications in the First Pursuit Group during the joint antiaircraft-Air Corps exercises, Fifth Corps Area, May 1933. (SC Bul—Nov-Dec 1933)

Machine gun mount for anti-aircraft firing. (FA Jour—Nov-Dec 1933)

Army antiaircraft artillery. (Rv d'Art—Oct 1933)

Italy: Ansaldo antiaircraft guns. (Rv d'Art—Oct 1933)

ANTI-ART

- The use of a cubic parabola in the preparation of antiaircraft fire tables. (Wr & Wf—Feb 1933)
Modern antiaircraft artillery. (Mil-Woch—4 Jul 1933)

ANTIAIRCRAFT DEFENSE

- Antiaircraft protection of columns. (Rv d'Inf—Mar 1933)
Static antiaircraft defense versus the interception method. (Rv F Aer—Aug 1933)
A discussion by the Secretary of War before the Senate. (Ea e Naz—Apr 1933)
Aerial protection of motorized units. (Mil-Woch—11 Sep 1933)

ANTITANK

- An antitank automatic rifle. (Rv d'Inf—Mar 1933)
Czechoslovakia: Accompanying guns with two barrels. (Rv d'Inf—Apr 1933)

ARGENTINA (ARMY OF)

- The character and military skill of San Martin. (Rev Mil—May 1933)

ARMAMENTS

- Miniature range for artillery, infantry cannon and mortars. (Rv d'Inf—Mar 1933)
Essays on the infantry. The direction of its evolution. (Rv d'Inf—Apr 1933)
Note on the comparative armament of French and German infantry in 1914. (Rv d'Inf—Apr 1933)
Czechoslovakia: New field equipment for infantry. (Rv d'Inf—Apr 1933)
The modern field piece of the division. (Rev Mil—May 1933)

ARMORED CARS

- Armored fighting vehicles in action. (CA Jour—Sep-Oct 1933)
Modern mobile units. (Cav Jour [GB]—Oct 1933)
The problem of vision in armored cars and tanks. (Rv de Cav—Jul-Aug 1933)
Propulsion on varied terrain. Cross-country power. (Rv de Cav—Sep-Oct 1933)
The problem of dealing with casualties in a force of armored fighting vehicles. (Roy Tk C Jour—Dec 1933)
The French Maneuvers in Champagne in September 1932. (Ws & Wr—Jul 1933)

ART OF WAR STRATEGY

- The grand strategy of the World War. (CA Jour—Sep-Oct, Nov-Dec 1933)
The principles of war and the R.A.F.—Concentration. (Roy AF Quar—Oct 1933)
Warfare in the XIV Century as conducted by Du Guesclin at du Fougeray and at Cocherel. (Rv d'Art—Aug 1933)
The offensive in future warfare: A French view. (Jour RUSI—Aug 1933)
Man maintenance. (Jour RUSI—Aug 1933)
Principles. (Fig Forc—Oct 1933)
The Crimean Campaign through the light of the Great War. (Jour R Art—Oct 1933)
Sir John Moore. A lecture on British discipline. (Jour R Art—Oct 1933)
Extracts from "The Conduct of War," by Marshal Foch. II.—The results of victory. (Jour R Art—Oct 1933)
Imperial defence. (A Quar—Oct 1933)
The soldier of antiquity. (Rv d'Inf—Apr 1933)
Essays on the infantry. The direction of its evolution. (Rv d'Inf—Apr 1933)
Influence of speed on modern warfare. Certain conclusions to be drawn therefrom for engineers. (Rv Gen Mil—Mar-Apr 1933)

- Should the war in the air be independent of that on the ground? (Rv F Aer—Aug 1933)
Leadership and organization. (Mil Eng—Nov-Dec 1933)
The purpose of the operations of the war. (Rev Ej Mar—May, Jun 1933)
Military service in its relation to war and economics. (Rev Ej Mar—Jun 1933)
Essay on information in war. (Rv Mil Fran—Jun 1933)
Military and civil mastery of technique. (Mil-Woch—4 Sep 1933)

ARTILLERY

- A brief history of Fort Sill and the Field Artillery School. (FA Jour—Nov-Dec 1933)
Command and Staff
Efficiency ratings. (FA Jour—Sep-Oct 1933)
Suggested battalion staff reorganization. (FA Jour—Nov-Dec 1933)
Artillery survey. (Mil-Woch—18 Jul 1933)
Artillery views in France. (Mil-Woch—25 Aug 1933)

Organization and Equipment

- An improved organization for a regiment of light artillery. (Rev Est Mil—Jun 1933)
The weight of gun carriages. (A Ord—Sep-Oct 1933)
A brief review of the personnel, functions, and organization of the Artillery Corps from its origin to the present day. (Rv d'Art—Sep 1933)
Spain: Light mortars for cavalry. (Rv d'Art—Sep 1933)
Approve motors for FA under MacArthur plan. (A&N Jour—18 Nov 1933)
Possibilities of centrifugal casting applied to gun manufacture. (Can Def Quar—Oct 1933)
A miniature French 75. (A Ord—Nov-Dec 1933)
The Field Artillery miniature gun. (FA Jour—Sep-Oct 1933)
The adaptability of ultra-short wave radio to Field Artillery communication. (FA Jour—Sep-Oct 1933)
Forecast of Field Artillery progress during the next five years. (FA Jour—Nov-Dec 1933)
Suggested battalion staff reorganization. (FA Jour—Nov-Dec 1933)
Field Artillery matériel in modern armies. (Rev Ej Mar—Mar 1933)
A portable combination tool. (Rv Gen Mil—Jan-Feb 1933)

Training Tactics

- Marginal notes on the regulations. Plan of installation for a battalion of artillery. (Rv d'Art—Aug 1933)
Essential characteristics of division artillery. (Rv d'Art—Aug 1933)
War time firing with unilateral observation. (Rv d'Art—Aug 1933)
To young artillerymen. (Rv d'Art—Aug 1933)
Artillery support of an infantry attack with tanks. (Rv d'Art—Sep 1933)
On the target. (Rv d'Art—Sep 1933)
Graphical preparation of fire in a battalion of artillery by the employment of parallax protractors. (Rv d'Art—Sep 1933)
Notes on the K method of transfer. (FA Jour—Sep-Oct 1933)
Forecast of Field Artillery progress during the next five years. (FA Jour—Nov-Dec 1933)
Suggested battalion staff reorganization. (FA Jour—Nov-Dec 1933)
A brief history of Fort Sill and the Field Artillery School. (FA Jour—Nov-Dec 1933)
Fire with relation to terrain or reduced charges with respect to accuracy of fire. (Rev Mil—Jun 1933)

Description of three simple devices for the calculation of corrections in direction. (Rv d'Art—Oct 1933)

A system of charts for high-burst ranging, the use of which will eliminate the necessity for trained calculators on range sections. (Rv d'Art—Oct 1933)

The last days of the School of Application of Artillery and Engineers at Metz. (Rv Gen Mil—Jan-Feb 1933)

Determination of the moments of inertia of projectiles. (Mil Mitt—Sep 1933)

New development in the calculation of the second ballistic problems. (Riv Art e Gen—Jan 1933)

Artillery fire and employment. (Riv Art e Gen—Jan 1933)

Employment of a regiment of heavy artillery in the approach and battle. (Riv Art e Gen—Feb 1933)

Artillery shelling their own infantry. (Wr & Wf—Jan 1933)

The clockwork fuse and its development. (Wr & Wf—Jan 1933)

Tactical views on the employment of artillery in the Red Army. (Wr & Wf—Feb 1933)

The artillery preparation in the attack. (Bul Belge Mil—Jul 1933)

Artillery observation. A concrete case. (Bul Belge Mil—Jul 1933)

Can the armored platoon prosecute an artillery fire fight? (Mil-Woch—25 Jul 1933)

Artillery missions in night operations. (Mil-Woch—4 Sep 1933)

ATTACK

Artillery support of an infantry attack with tanks. (Rv d'Art—Sep 1933)

Some reflections on modern military tactics. (Jour RUSI—Aug 1933)

The attack problem from an infantry point of view. (Can Def Quar—Oct 1933)

Supporting an infantry division. (FA Jour—Sep-Oct 1933)

The threat on Paris and the cavalry battle of Nery, 1 September, 1914. (Rv de Cav—Sep-Oct 1933)

The artillery preparation in the attack. (Bul Belge Mil—Jul 1933)

The conduct of a holding attack. [See Section 2]

AUSTRIA-HUNGARY (ARMY OF)

Camouflage. A discussion of Chapter IV of the Austrian Field Service Regulations. (Mil Mitt—Jun 1933)

The situation at the lower Piave before and after the June battle of 1918. (Lecture) (Mil Mitt—Jul 1933)

Military education in schools. (Mil Mitt—Jul 1933)

Questions arising in combat training. (Mil Mitt—Aug, Sep 1933)

Aids to troop training. (Mil Mitt—Aug 1933)

The Austro-Hungarian Army in the World War. (Ws & Wr—Sep 1933)

The Army of old Austria in the history of Germany. (Ws & Wr—Sep 1933)

Recollections of my detail at the Austrian high command. (Ws & Wr—Sep 1933)

B

BELGIUM (ARMY OF)

History of the Belgian Army during the World War, 1914-1918. Operations of the 9th Carabiniers on the 9th of September 1918. (Bul Belge Mil—Jul 1933)

Forms for training sentinels. (Bul Belge Mil—Jul 1933)

BRAZIL (ARMY OF)

Composition of the principal armies of the world: Brazil. (Rev Ej Mar—Jun 1933)

C

CAMOUFLAGE

Common sense of camouflage defense. (Mil Eng—Jan-Feb 1934)

Camouflage. A discussion of Chapter IV of the Austrian Field Service Regulations. (Mil Mitt—Jun 1933)

CANADA (ARMY OF)

The influence of mechanization and motorization on the organization and training of the non permanent active militia. (Can Def Quar—Oct 1933)

CAVALRY

Command and Staff

The problem of the cavalry. (Rv de Cav—Sep-Oct 1933)

Employment and principles of conduct of modern independent cavalry. (Mil-Woch—18 Aug 1933)

Organization and Equipment

Modern mobile units. (Cav Jour [GB]—Oct 1933)

Spain: Light mortars for cavalry. (Rv d'Art—Sep 1933)

Tactical employment of mechanized cavalry. (Chem War—Oct 1933)

Cavalry "marches" on wheels. (A Ord—Nov-Dec 1933)

Essay: "Discuss the tactical employment of light tanks, (a) with Cavalry, (b) with Infantry, in both the plains of India and in the mountainous country of the North-West Frontier. Particular reference should be made to the problems of maintenance and supply." (Jour USII—Oct 1933)

The war of tomorrow. The motorization of the cavalry. (Cav Sch ML—15 Dec 1933)

Pneumatic tools with cavalry. (Cav Sch ML—15 Dec 1933)

Tactical employment of mechanized cavalry. (Cav Sch ML—15 Dec 1933)

The tactical employment of chemicals by a cavalry (mechanized) force. (Cav Sch ML—15 Dec 1933)

A portable combination tool. (Rv Gen Mil—Jan-Feb 1933)

Training Tactics

The problem of cavalry. (Rv de Cav—Sep-Oct 1933)

Cavalry crossing of an unfordable river in the Philippines. (Cav Jour—Sep-Oct 1933)

The employment of a mechanized cavalry brigade. (Cav Jour—Sep-Oct 1933)

Cavalry in close reconnaissance. (Es e Naz—Apr 1933)

Cavalry in combined arms. (Mil-Woch—4 Jul, 4 Aug 1933)

Faulty cavalry employment. Battle at Pillon, 10 August 1914. (Mil-Woch—25 Aug, 4 Sep 1933)

Cavalry taught by experience. [See Section 4]

CHEMICAL WARFARE SERVICE

Bacterial warfare. (Jour RUSI—Aug 1933)

The work of the Chemical Warfare Service. (Chem War—Oct 1933)

Gas as a defensive weapon. (Chem War—Oct 1933)

Gas masks. (A Ord—Nov-Dec 1933)

The tactical employment of chemicals by a cavalry (mechanized) force. (Cav Sch ML—15 Dec 1933)

Problems in location of gassed areas. (Cav Sch ML—15 Dec 1933)
 Defense against Chemical Warfare in the Red Army. (Mil-Woch—18 Jul 1933)
 From the workshop of the troops: The training of troops in antigas methods. (Mil-Woch—4, 11 Sep 1933)

CIVILIAN CONSERVATION CORPS

The Civilian Conservation Corps. (Mil Eng—Jan-Feb 1934)

COAST ARTILLERY

The siege of Malta—A coast defence epic. (CA Jour—Sep-Oct 1933)
 Aircraft and coast defence. (AN&AF Gaz—21 Sep 1933)
 The Coast Defence exercise. (AN&AF Gaz—28 Sep 1933)
 Air power and coast defence. (AN&AF Gaz—21 Dec 1933)

COMMAND, STAFF & LOGISTICS

Younger generals. (Jour RUSI—Aug 1933)
 The German Intelligence Service during the World War. (CA Jour—Nov-Dec 1933)
 The value of studies in health and sanitation in war planning. (Mil Surg—Dec 1933)
 Signal communication between the headquarters staffs during the warfare of movement in 1914. (SC Bul—Sep-Oct 1933)
 The tactics and technique of small wars. Part III.—Functions of the personnel (first) section of the Staff. (MC Gaz—Nov 1933)
 Imperial defence. (A Quar—Oct 1933)
 Essays on the infantry. The direction of its evolution. (Rv d'Inf—Apr 1933)
 Modern war requirements. (Rv d'Inf—May 1933)
 A staff exercise in Belgium. (Roy Eng Jour—Dec 1933)
 Public lands occupied by permanent defenses. (Rv Gen Mil—Jan-Feb 1933)
 Attack on bases in naval warfare. (Rv F Aer—Jul 1933)
 Communications control in war. (A&N Jour—16 Dec 1933)
 Thoughts on administration. (AN&AF Gaz—7, 21, 28 Sep, 26 Oct, 2 Nov 1933)
 The defensive maneuver. (Rv Mil Fran—Jun 1933)
 System of supply. (Ws & Wr—May 1933)

CONCENTRATION

The principles of war and the R.A.F.—Concentration. (Roy AF Quar—Oct 1933)

COUNTERATTACK

Supporting an infantry division. (FA Jour—Sep-Oct 1933)

CRYPTOGRAPHY

The contribution to the Cryptographic Bureaus in the World War. (SC Bul—Nov-Dec 1933)

CZECHOSLOVAKIA (ARMY OF)

A regiment of Czechoslovak Infantry in the combat at Vouziers, October 1918. (Rv d'Inf—Mar 1933)
 Czechoslovakia: Accompanying guns with two barrels. (Rv d'Inf—Apr 1933)

D

DISARMAMENT

The disarmament crisis, 1933. (For Pol Rep—25 Oct 1933)
 Germany's military organization in connection with present-day problems of international disarmament and revision of treaties. (Can Def Quar—Oct 1933)

Air bombing and disarmament. (A Quar—Oct 1933)

The world disarmament conference. (Rev Mil—May & Jun 1933)

"Pretty well disarmed already." (A&N Reg—18 Nov 1933)

Disarmament. (AN&AF Gaz—14 Sep 1933)

Geneva knavery. (AN&AF Gaz—14 Sep 1933)

Geneva wants war. (AN&AF Gaz—14 Sep 1933)

The League and naval defence. (AN&AF Gaz—5 Oct 1933)

Germany: Germany withdraws from the Disarmament Conference and the League of Nations. (Int Sum (WD)—1 Dec 1933)

The second disarmament conference. (Mil Mitt—Sep 1933)

The bankruptcy of the Disarmament Conference. (Mil-Woch—11 Jul 1933)

The newest French disarmament sabotage. (Mil-Woch—4 Aug 1933)

Towards disarmament. (Mil-Woch—11 Sep 1933)

DISCIPLINE

Sir John Moore. A lecture on British discipline. (Jour R Art—Oct 1933)

Man maintenance. (Jour RUSI—Aug 1933)

E

ECONOMICS

The work of the London Economic Conference. (For Pol Rep—8 Nov 1933)

Various aspects of the oil industry. (Rev Mil—Jun 1933)

After the World Economic Conference. (For A—Oct 1933)

Indications of world recovery. (For A—Oct 1933)

Economic consequences of Japan's Asiatic policy. (For A—Oct 1933)

Fascist economic policy and the N.R.A. (For A—Oct 1933)

Fuel control in a national emergency. (Mil Eng—Jan-Feb 1934)

National economics. (Rev Ej Mar—Jun 1933)

ENGINEERS

Military roads. (A Quar—Oct 1933)

Organization and Equipment

What equipment is necessary to force stream crossings? (Rv Gen Mil—Jan-Feb 1933)

Utilization of "Railroute" vehicles by railroad engineers. (Rv Gen Mil—Mar-Apr 1933)

Replacement of rolling lock gates. (Mil Eng—Jan-Feb 1934)

Service test of ponton equipage. (Mil Eng—Jan-Feb 1934)

Developments in steel breakwaters. (Mil Eng—Jan-Feb 1934)

A combined railroad and road vehicle. (Wr & Wf—Jan 1933)

Training Tactics

The last days of the School of Application of Artillery and Engineers at Metz. (Rv Gen Mil—Jan-Feb 1933)

Notes on dredging in Upper Casamance in 1907. (Rv Gen Mil—Jan-Feb 1933)

Influence of speed on modern warfare. Certain conclusions to be drawn therefrom for engineers. (Rv Gen Mil—Mar-Apr 1933)

Breaching solid objects with concentrated surface charges of high explosive. (Rv Gen Mil—Mar-Apr 1933)

Army Engineers make record. (A&N Reg—7 Oct 1933)

Work of Corps of Engineers. (A&N Reg—23 Dec 1933)

Surveying in the Philadelphia District. (Mil Eng—Nov-Dec 1933)
 Breakwaters on the Great Lakes. (Mil Eng—Nov-Dec 1933)
 The military survey of Luzon. (Mil Eng—Jan-Feb 1934)
 Technical notes on war bridges. (Mil Mitt—Jul, Aug 1933)
 The work by military engineers at Cyrenaica. (Riv Art e Gen—Feb 1933)

F

FORTIFICATIONS

The siege of Malta—A coast defence epic. (CA Jour—Sep-Oct 1933)
 "Fortified frontiers." (A Quar—Oct 1933)
 Public lands occupied by permanent defenses. (Rv Gen Mil—Jan-Feb, Mar-Apr 1933)

FRANCE (ARMY OF)

Command and Staff

Modern war Requirements. (Rv d'Inf—May 1933)
 The French Army, 1815-1914. (Rv Mil Fran—May, Jun 1933)
 The organization of the supply services, French Army. (Rv Ej Mar—Mar 1933)
 French military estimates for 1933. (AN&AF Gaz—28 Sep 1933)
 Promotion of officers in the French Army. (AN&AF Gaz—16 Nov 1933)
 Elimination of officers in the French Army. (AN&AF Gaz—21 Dec 1933)
 France: The requirements of matériel warfare. (Int Sum (WD)—20 Oct, 3, 17 Nov 1933)
 French industrial preparedness at the beginning of the World War. (Ws & Wr—Jul 1933)
 Changes in French National Defense. (Mil-Woch—4 Jul 1933)
 Training of French civil population in gas defense. (Mil-Woch—4 Aug 1933)
 Artillery views in France. (Mil-Woch—25 Aug 1933)

Organization and Equipment

France: Air Force constitution bill. (Jour RUSI Aug 1933)
 France: Infantry reorganization at home. (Jour RUSI—Aug 1933)
 The Medical Service of the French Army during the World War. (Mil Surg—Oct 1933)
 The problem of the cavalry. (Rv de Cav—Sep-Oct 1933)
 The organization of the supply services, French Army. (Rv Ej Mar—Mar 1933)
 The great air power of France. (Ws & Wr—May 1933)
 Organization and combat methods of a French Machine Gun Company. (Mil-Woch—18 Jul 1933)
 France's colored armies. (Mil-Woch—4 Sep 1933)

Training

Joint maneuvers with the Navy in Tunis. (Rv Est Mil—May 1933)
 A course at the French Ecole de Guerre. (Rv Est Mil—May, Jun 1933)
 Marginal notes on the regulations. Plan of installation for a battalion of artillery. (Rv d'Art—Aug 1933)
 Artillery support of an infantry attack with tanks. (Rv d'Art—Sep 1933)
 A sand table exercise for noncommissioned officers. (Rv d'Inf—Mar 1933)
 The last days of the School of Application of Artillery and Engineers at Metz. (Rv Gen Mil—Jan-Feb 1933)
 The French Maneuvers in Champagne in September 1932. (Ws & Wr—Jul 1933)

FUTURE WARFARE

The offensive in future warfare: A French view. (Jour RUSI—Aug 1933)
 Essays on the infantry. The direction of its evolution. (Rv d'Inf—Apr 1933)
 The problem of the cavalry. (Rv de Cav—Sep-Oct 1933)
 From my observation post in Paris: Some prophecies concerning war in South America. (Rv Mil—Jun 1933)
 The war of tomorrow. The motorization of the cavalry. (Cav Sch ML—15 Dec 1933)
 A glance at the future. (Rv d'Art—Oct 1933)
 Mechanization and the next war. (Riv Art e Gen—Jan 1933)
 The Pacific as future war zone. (Mil-Woch—25 Aug 1933)
 The recipe for victory. Foreign views on the war of the future. (Mil-Woch—11 Sep 1933)

G

GEOGRAPHY (MILITARY)

The military survey of Luzon. (Mā Eng—Jan-Feb 1934)
 The Pacific as future war zone. (Mil-Woch—25 Aug 1933)

GERMANY (ARMY OF)

Command and Staff

The German Intelligence Service during the World War. (CA Jour—Nov-Dec 1933)
 Signal communication between the headquarters staffs during the warfare of movement in 1914. (SC Bul—Sep-Oct 1933)
 Germany and war. (AN&AF Gaz—12 Oct 1933)
 Clearing the higher ranks. (AN&AF Gaz—14 Dec 1933)
 German Army promotion. (AN&AF Gaz—14 Dec 1933)
 Some recent changes in the organization for ammunition supply. (Roy A Serv C Quar—May 1933)
 Volume IX of the German Official History of the World War. (Mil Mitt—Sep 1933)
 Unified War Ministry and General Staff. (Mil-Woch—11 Jul 1933)
 Technical survey. (Mil-Woch—4 Aug 1933)
 National defense—knowledge and training. (Mil-Woch—25 Aug 1933)
 Critique of military instruction. (Mil-Woch—4 Sep 1933)

Organization and Equipment

Germany: The formation of the German Air Ministry. (Jour RUSI—Aug 1933)
 Germany's military organization in connection with present-day problems of international disarmament and revision of treaties. (Can Def Quar—Oct 1933)
 The new field uniform of the German Army. (Mil-Woch—4 Jul 1933)

Training

Germany: National physical training. (Jour RUSI—Aug 1933)
 March technique. (Rv d'Inf—Mar 1933)
 Education in the special schools of the army. (Ws & Wr—May 1933)
 Tactical exercise No. 8. (Mil-Woch—4, 11 Jul 1933)
 Cadet training in Germany. (Mil-Woch—25 Jul 1933)
 Critique of military instruction. (Mil-Woch—4 Sep 1933)
 From the workshop of the troops: The training of troops in antagas methods. (Mil-Woch—4, 11 Sep 1933)

GREAT BRITAIN (ARMY OF)

Command and Staff

- Younger generals. (Jour RUSI—Aug 1933)
- Imperial defence. (A Quar—Oct 1933)
- Great Britain: Promotion in the British Army. (Rv d'Inf—May 1933)
- A staff exercise in Belgium. (Roy Eng Jour—Dec 1933)
- Thoughts on administration. (AN&AF Gaz—7, 21, 28 Sep, 26 Oct, 2 Nov 1933)
- Facilitating promotion. (AN&AF Gaz—5 Oct 1933)
- Extracts from the statement of the Government's policy regarding Australian defence. (AN&AF Gaz—7 Dec 1933)
- Rationalised promotion. (AN&AF Gaz—14 Dec 1933)
- Clearing the higher ranks. (AN&AF Gaz—14 Dec 1933)
- Why general officers do not retire. (AN&AF Gaz—21 Dec 1933)
- The Royal Army Service Corps and its training objectives. (Roy A Serv C Quar—May 1933)

Mobilization

- Great Britain: Territorial Army. (Jour RUSI—Aug 1933)
- With the British Army in Constantinople. A personal narrative. (A Quar—Oct 1933)

Organization and Equipment

- The cavalry in France, March-April, 1918. (Cav Jour [GB]—Oct 1933)
- Cavalry in the Great War: A brief retrospect. (Cav Jour [GB]—Oct 1933)
- The principles of war and the R.A.F.—Concentration. (Roy AF Quar—Oct 1933)
- The Royal Australian Air Force. (Roy AF Quar—Oct 1933)
- The reformation of infantry. (Jour RUSI—Aug 1933)
- Great Britain: Royal Air Force. (Jour RUSI—Aug 1933)
- The Empire's military system. (Can Def Quar—Oct 1933)
- The organization of the R.A.S.C. in the Territorial Army. (Roy A Serv C Quar—May 1933)

Training

- Public speaking. (Jour RUSI—Aug 1933)
- The co-ordination of the fighting services. (Jour USII—Oct 1933)
- The war game. (Jour USII—Oct 1933)
- Education and the Army. A brief historical sketch. (Jour R Art—Oct 1933)
- Sir John Moore. A lecture on British discipline. (Jour R Art—Oct 1933)
- The tactical education of junior officers of the Territorial Army. (A Quar—Oct 1933)
- On military French. (A Quar—Oct 1933)
- Great Britain: Cooperation between aviation and ground troops. (Rv d'Inf—Apr 1933)
- The training of pilots and flying instructors in England. (Rv F Aer—Jul 1933)
- Aircraft and coast defence. (AN&AF Gaz—21 Sep 1933)
- Army manoeuvres, 1933. (AN&AF Gaz—28 Sep 1933)
- The Royal Army Service Corps and its training objectives. (Roy A Serv C Quar—May 1933)
- Co-operation and the training of the R.A.S.C. for war. (Roy A Serv C Quar—May 1933)

GREAT BRITAIN (NAVY OF)

- Naval training: A general review. (Jour RUSI—Aug 1933)
- Man maintenance. (Jour RUSI—Aug 1933)
- Aircraft-carriers and flying boats. (AN&AF Gaz—28 Sep 1933)

- High speed war craft. (AN&AF Gaz—12 Oct 1933)
- A skeleton fleet. (AN&AF Gaz—19 Oct 1933)
- British Empire: The Singapore naval base. (Int Sum [WD]—6 Oct 1933)

H

HISTORY (MILITARY)

- The study of military history. (Rev Mil—May 1933)
- The significance of the year 1683 in the history of the world. (Mil Mitt—Sep 1933)
- The second siege of Vienna in 1683. (Mil Mitt—Sep 1933)

HISTORY

Austria-Hungary

- Kossuth and the Treaty of Trianon. (For A—Oct 1933)
- Prince Eugene of Savoy as a military leader. (Mil Mitt—Jul 1933)
- The significance of the year 1683 in the history of the world. (Mil Mitt—Sep 1933)
- The second siege of Vienna in 1683. (Mil Mitt—Sep 1933)

Balkans

- The Balkans in the world crisis. (For Pol Rep—6 Dec 1933)
- Salvaging the debts of Eastern Europe. (For A—Oct 1933)

Central America

- Central America and Panama: Present internal and international status. (Int Sum [WD]—6, 20 Oct, 3 Nov 1933)

China

- The sale of the Chinese Eastern Railway. (For A—Oct 1933)
- China: The aftermath of the Tangku truce. (Int Sum [WD]—6 Oct 1933)
- China: Yunnan: A French sphere of influence. (Int Sum [WD]—17 Nov 1933)
- The powers in the Far East. (Mil-Woch—4 Jul 1933)

Cuba

- Revolution in Cuba. (For A—Oct 1933)
- Cuba: Recent developments in the political situation. (Int Sum [WD]—1 Dec 1933)

Estonia

- Estonian independence. (Rv d'Hist—Apr 1933)

Germany

- The Jews in the Third Reich. (For Pol Rep—11 Oct 1933)
- A new Polish Corridor. (For A—Oct 1933)
- Germany: Germany's air defense of her civil population. (Int Sum [WD]—20 Oct 1933)
- Germany: Germany withdraws from the Disarmament Conference and the League of Nations. (Int Sum [WD]—1 Dec 1933)

Great Britain

- British Empire: Relations with the Near East. (Int Sum [WD]—1 Dec 1933)
- British Empire: Relations with the Middle West. (Int Sum [WD]—29 Dec 1933)

Italy

- Fascist economic policy and the N.R.A. (For A—Oct 1933)

Japan

- Economic consequences of Japan's Asiatic policy. (For A—Oct 1933)
- Japan: The trials of reactionaries bring an unexpected verdict. (Int Sum [WD]—29 Dec 1933)
- The powers in the Far East. (Mil-Woch—4 Jul 1933)

Latin America

The Montevideo Conference and the Latin American policy of the United States. (For Pol Rep—22 Nov 1933)

Libya

Libya and her future. (Es e Naz—Apr 1933)

Oceania

America in the Pacific. [See Section 4]

Panama

Central America and Panama: Present internal and international status. (Int Sum [WD]—6, 20 Oct, 3 Nov 1933)

Poland

A new Polish Corridor. (For A—Oct 1933)

Russia

Foreign policy of the Soviet Union. (Jour RUSI—Aug 1933)

Russia: The United States recognizes Soviet Russia. (Int Sum [WD]—15 Dec 1933)

Spain

Spain: The meaning of the Spanish vote. (Int Sum [WD]—15 Dec 1933)

Spain under the Republic. (For Pol Rep—20 Dec 1933)

Turkey

Turkey: Ten years of the Turkish Republic. (Int Sum [WD]—3 Nov 1933)

United States

The Montevideo Conference and the Latin American policy of the United States. (For Pol Rep—22 Nov 1933)

Russia: The United States recognizes Soviet Russia. (Int Sum [WD]—15 Dec 1933)

Washington's adventure to the Ohio. (Cav Jour—Nov-Dec 1933)

Gouverneur Kemble Warren. [See Section 4]

I**INFANTRY****Command and Staff**

Essays on the infantry. The direction of its evolution. (Rv d'Inf—Apr 1933)

Tales of a Veteran. (Rv d'Inf—May 1933)

Organization and Equipment

The reformation of infantry. (Jour RUSI—Aug 1933)

France: Infantry reorganization at home. (Jour RUSI—Aug 1933)

Operations of the 1st Platoon, Co. B, 38th Infantry. (Inf Jour—Sep-Oct 1933)

Operations of Co. H, 60th Infantry, in the Meuse-Argonne offensive. (Inf Jour—Nov-Dec 1933)

Viewing our peace-time infantry organization. (Inf Jour—Nov-Dec 1933)

Essay: "Discuss the tactical employment of light tanks, (a) with Cavalry, (b) with Infantry, in both the plains of India and in the mountainous country of the North-West Frontier. Particular reference should be made to the problems of maintenance and supply." (Jour USII—Oct 1933)

A device for imitating the fire of infantry accompanying weapons. (Rv d'Inf—Apr 1933)

Sweden: New field equipment for infantry. (Rv d'Inf—Apr 1933)

Infantry discussion. Ammunition supply. (Rev Mil—May & Jun 1933)

A portable combination tool. (Rv Gen Mil—Jan-Feb 1933)

Solution of the question of the infantry gun. (Mil-Woch—11 Jul 1933)

Training Tactics

Artillery support of an infantry attack with tanks. (Rv d'Art—Sep 1933)

Tentative infantry drill regulations, 1932. (A&N Jour—28 Oct 1933)

The attack problem from an infantry point of view. (Can Def Quar—Oct 1933)

Light infantry training. (Jour USII—Oct 1933)

A sand table exercise for noncommissioned officers. (Rv d'Inf—Mar 1933)

A device for imitating the fire of infantry accompanying weapons. (Rv d'Inf—Apr 1933)

The infantry regiment in defense—illustrative problem. (Rv d'Inf—May 1933)

A battalion of infantry in the exploitation of success. (Es e Naz—May 1933)

Training of Rumanian infantry. (Mil-Woch—4 Jul 1933)

INTELLIGENCE (MILITARY)

The German Intelligence Service during the World War. (CA Jour—Nov-Dec 1933)

The situation at the lower Plave before and after the June battle of 1918. (Mil Mitt—Jul 1933)

Essay on information in war. (Rv Mil Fran—Jun 1933)

INTERNATIONAL RELATIONS

The United States and the first Russian revolution, March-November 1917. (Rv d'Hist—Jan 1933)

The United States Senate and the Versailles treaty. (Rv d'Hist—Jan 1933)

Foreign policy of the Soviet Union. (Jour RUSI—Aug 1933)

China and Japan. (Jour RUSI—Aug 1933)

A Navy view of the Monroe Doctrine. (A&N Jour—18 Nov 1933)

The work of the London Economic Conference. (For Pol Rep—8 Nov 1933)

The Montevideo Conference and the Latin American policy of the United States. (For Pol Rep—22 Nov 1933)

The Balkans in the world crisis. (For Pol Rep—6 Dec 1933)

Nationalism and internationalism. (Nav Inst Proc—Dec 1933)

Foreign affairs. An outline of international political conditions today, our relations to them, and the bearing on the outlook for America's national defense. (MC Gaz—Nov 1933)

An international air force. (AN&F Gaz—14 Dec 1933)

Recent policies of non-recognition. (Int Con—Oct 1933)

War debts. (Int Con—Nov 1933)

A new Polish Corridor. (For A—Oct 1933)

China: The aftermath of the Tangu truce. (Int Sum [WD]—6 Oct 1933)

Central America and Panama: Present internal and international status. (Int Sum [WD]—6, 20 Oct, 3 Nov 1933)

British Empire: Relations with the Near East. (Int Sum [WD]—1 Dec 1933)

Germany: Germany withdraws from the Disarmament Conference and the League of Nations. (Int Sum [WD]—1 Dec 1933)

Russia: The United States recognizes Soviet Russia. (Int Sum [WD]—15 Dec 1933)

British Empire: Relations with the Middle West. (Int Sum [WD]—29 Dec 1933)

The powers in the Far East. (Mil-Woch—4 Jul 1933)

ITALY (ARMY OF)

Italy: Ansaldo antiaircraft guns. (Rv d'Art—Oct 1933)

ITALY-MAN

Promotion of officers in the Italian Army. (AN&AF Gaz—19 Oct 1933)
Italy: "I Celeri" ("Light Troops"). (Int Sum [WD]—15, 29 Dec 1933)
A discussion by the Secretary of War before the Senate. (Es e Naz—Apr 1933)
The ascension to the top of a high mountain in winter. (Es e Naz—Apr 1933)
Cavalry in close reconnaissance. (Es e Naz—Apr 1933)
24th of May—Hallowed infantry. (Es e Naz—May 1933)
A battalion of infantry in the exploitation of success. (Es e Naz—May 1933)
The Italian maneuvers in 1932. (Ws & Wr—Sep 1933)

ITALY (NAVY OF)

Our navy in 1911. (Es e Naz—May 1933)

J

JAPAN (ARMY OF)

Japan: Official pronouncements on Air Defence. (Jour RUSI—Aug 1933)
Maneuvers of Russian and Japanese air fleets. (Mil-Woch—25 Aug 1933)

JAPAN (NAVY OF)

Maximum navies for Japan and U.S.A. (AN&AF Gaz—7 Sep 1933)

JOINT OPERATIONS

Joint maneuvers with the Navy in Tunis. (Rev Est Mil—May 1933)
The German Oesel Expedition in 1917. (Nav Inst Proc—Dec 1933)
The possibility of attaining strategic or tactical surprise in a landing on hostile shores, and methods to be employed. (SC Bul—Nov-Dec 1933)
Extracts from Commander Frost's article, "Let's pull together." (Rev Mil—Jun 1933)
Aero-naval warfare in the Flanders Bight, 1918. (Rv F Aer—Jun 1933)
Attack on bases in naval warfare. (Rv F Aer—Jul 1933)
Aircraft and coast defence. (AN&AF Gaz—21 Sep 1933)
Air and Navy exercise. (AN&AF Gaz—5 Oct 1933)

L

LARGE UNITS

Modern war Requirements. (Rv d'Inf—May 1933)
The defensive maneuver. (Rv Mil Fran—Jun 1933)
The French Maneuver in Champagne in September 1932. (Ws & Wr—Jul 1933)
The Italian maneuvers in 1932. (Ws & Wr—Sep 1933)

Army

The Third Army. (A&N Reg—4 Nov 1933)

Corps

The VI Corps in the Battle of the Frontiers, 22 August 1914. (Rv d'Inf—Apr 1933)
Supporting an infantry division. (FA Jour—Sep-Oct 1933)
The first battle of Romagne. (FA Jour—Nov-Dec 1933)
The defense of the gap between the armies of von Kluck and von Bülow by Marwitz and Richthofen cavalry corps, 6-9 September 1914. (Rv de Cav—Jul-Aug, Sep-Oct 1933)
The battle of the Marne and the race to the sea. (Rv Mil Fran—Apr, May, Jun 1933)
August 15, 1914 on the Meuse. Battle of Dinant. (Rv Mil Fran—Apr 1933)

Division

Operations of the 12th Division on the 21st and 22d of August, 1914. (Rv d'Inf—May 1933)
Supporting an infantry division. (FA Jour—Sep-Oct 1933)
The defense of the gap between the armies of von Kluck and von Bülow by Marwitz and Richthofen cavalry corps, 6-9 September 1914. (Rv de Cav—Jul-Aug, Sep-Oct 1933)
A reconnaissance group on security and in an offensive march. (Rv de Cav—Jul-Aug 1933)
The threat on Paris and the cavalry battle of Nérly, 1 September, 1914. (Rv de Cav—Sep-Oct 1933)
The division and its march problems. (Rev E J Mar—May 1933)

LEADERSHIP

The soldier of antiquity. (R d'Inf—Apr 1933)
Leadership and organization. (Mil Eng—Nov-Dec 1933)
Employment and principles of conduct of modern independent cavalry. (Mil-Woch—18 August 1933)

LIAISON

Means and the man. (Roy AF Quar—Oct 1933)
Artillery support of an infantry attack with tanks. (Rv d'Art—Sep 1933)
Essay: "Discuss the tactical employment of light tanks, (a) with Cavalry, (b) with Infantry, in both the plains of India and in the mountainous country of the North-West Frontier. Particular reference should be made to the problems of maintenance and supply." (Jour USII—Oct 1933)
The co-ordination of the fighting services. (Jour USII—Oct 1933)
Great Britain: Cooperation between aviation and ground troops. (Rv d'Inf—Apr 1933)
Supporting an infantry division. (FA Jour—Sep-Oct 1933)

M

MACHINE GUNS

Contribution to the study of the effectiveness of long-range machine-gun fire. (Rv d'Inf—Mar 1933)
The machine gun S 2-200. (Wr & Wf—Jan 1933)
Organization and combat methods of a French Machine Gun Company. (Mil-Woch—18 Jul 1933)
Contributions to machine gun tactics. (Mil-Woch—11 Aug 1933)

MANEUVERS

Air maneuvers on the West coast. (CA Jour—Sep-Oct 1933)
Joint maneuvers with the Navy in Tunis. (Rev Est Mil—May 1933)
Polish winter exercise in the Poznan region. (Rev Est Mil—May 1933)
Military maneuvers and exercises of combined arms. (Rev Est Mil—Jun 1933)
Signal operations in the defense forces (Red) during the joint antiaircraft-Air Corps exercises, Fifth Corps Area, May 1933. (SC Bul—Nov-Dec 1933)
Signal communications in the First Pursuit Group during the joint antiaircraft-Air Corps exercises, Fifth Corps Area, May 1933. (SC Bul—Nov-Dec 1933)
The war game. (Jour USII—Oct 1933)
The infantry regiment in defense—illustrative problem. (Rv d'Inf—May 1933)
A reconnaissance group on security and in an offensive march. (Rv de Cav—Jul-Aug 1933)

A staff exercise in Belgium. (Roy Eng Jour—Dec 1933)
 Maneuver. A conference. (Rv Ej Mar—Mar 1933)
 What equipment is necessary to force stream crossings? (Rv Gen Mil—Jan-Feb 1933)
 Aircraft and coast defence. (AN&AF Gaz—21 Sep 1933)
 Army manoeuvres, 1933. (AN&AF Gaz—28 Sep 1933)
 The Coast Defence exerc'se. (AN&AF Gaz—28 Sep 1933)
 Air and Navy exercise. (AN&AF Gaz—5 Oct 1933)
 An American landing maneuver. (Mil Mitt—Aug 1933)
 The ascension to the top of a high mountain in winter. (Es e Naz—Apr 1933)
 Cavalry in close reconnaissance. (Es e Naz—Apr 1933)
 The defensive maneuver. (Rv Mil Fran—Jun 1933)
 The French Maneuvers in Champagne in September 1932. (Ws & Wr—Jul 1933)
 The Italian maneuvers in 1932. (Ws & Wr—Sep 1933)
 Maneuvers of Russian and Japanese air fleets. (Mil-Woch—25 Aug 1933)

MAP PROBLEMS

Tactical exercise No. 8. (Mil-Woch—4, 11 Ju 1933)

MARCHES

March technique. (Rv d'Inf—Mar 1933)
 A reconnaissance group on security and in an offensive march. (Rv de Cav—Jul-Aug 1933)
 The development. (Rv Mil Fran—Apr, May 1933)
 The division and its march problems. (Rev Ej Mar—May 1933)

MARINE CORPS

The education of a marine officer. III.—United States Army and Navy Service Schools. (MC Gaz—Nov 1933)
 What the Marine Corps Reserve is doing. (MC Gaz—Nov 1933)
 The Waziristan Campaign, 1919-1920, 1923. (MC Gaz—Nov 1933)
 Some little known phases of Marine Corps aviation. (MC Gaz—Nov 1933)
 New Marine Force will operate as fleet unit. (A&N Jour—16 Dec 1933)

MARKSMANSHIP

National Rifle Matches. (A&N Reg—18 Nov 1933)

MECHANIZATION

Armored fighting vehicles in action. (CA Jour—Sep-Oct 1933)
 Mechanized-mindedness. (Jour RUSI—Aug 1933)
 Tactical employment of mechanized cavalry. (Chem War—Oct 1933)
 Armored fighting vehicles in action. (Inf Jour—Sep-Oct 1933)
 The influence of mechanization and motorization on the organization and training of the non permanent active militia. (Can Def Quar—Oct 1933)
 Cavalry "marches" on wheels. (A Ord—Nov-Dec 1933)
 A.D. 1936. (A Ord—Nov-Dec 1933)
 Propulsion on varied terrain. Cross-country power. (Rv de Cav—Sep-Oct 1933)
 Tactical employment of mechanized cavalry. (Cav Sch ML—15 Dec 1933)
 Mechanized-mindedness. (Cav Sch ML—15 Dec 1933)

Mechanized forces. (Cav Sch ML—15 Dec 1933)
 The tactical employment of chemicals by a cavalry (mechanized) force. (Cav Sch ML—15 Dec 1933)
 Mechanized forces. (Cav Jour—Sep-Oct 1933)
 The employment of a mechanized cavalry brigade. (Cav Jour—Sep-Oct 1933)
 Mechanization of combat units. (Mil Eng—Nov-Dec 1933)
 Mechanization and the next war. (Riv Art e Gen—Jan 1933)
 Can the armored platoon prosecute an artillery fire fight? (Mil-Woch—25 Jul 1933)
 Aerial protection of motorized units. (Mil-Woch—11 Sep 1933)

MEDICAL SERVICE

The Medical Service of the French Army during the World War. (Mil Surg—Oct 1933)
 The value of studies in health and sanitation in war planning. (Mil Surg—Dec 1933)
 The use of autogiros in the evacuation of wounded. (Mil Surg—Dec 1933)
 Army Medical N.C.O's. (A&N Reg—7 Oct 1933)
 System of supply. (Ws & Wr—May 1933)

MEETING ENGAGEMENT

Summary of the general principles of meeting engagements. (Rev Mil—Jun 1933)
 The meeting engagement. (Rv Ej Mar—Mar 1933)

MEXICO (ARMY OF)

A bank for the Army. (Rev Ej Mar—Mar 1933)
 Maneuver. A conference. (Rev Ej Mar—Mar 1933)
 Instructions for the guidance of paymasters and agent officers in order to conform with the regulations promulgated by the Ministries of War and of the Treasury. (Rev Ej Mar—May 1933)
 Praise for the veterans of the old stock. (Rev Ej Mar—May 1933)
 Impressions upon a visit to the new War College building under construction. (Rev Ej Mar—May 1933)
 Mexico creates a general service school. (Rev Ej Mar—Jun 1933)
 Observations and suggestions for the Quartermaster Service of the Army. (Rev Ej Mar—Jun 1933)
 Clothing and equipment for the army. (Rev Ej Mar—Jun 1933)

MEXICO (NAVY OF)

Naval training. (Rev Ej Mar—Mar 1933)
 Essentials for an understanding of the Navy. (Rev Ej Mar—May, Jun 1933)

MOBILIZATION

Mobilization of the whole nation. (Mil-Woch—25 Aug 1933)

MOORE, General Sir John (1761-1809)

Sir John Moore. A lecture on British discipline. (Jour R Art—Oct 1933)

MORALE

Man maintenance. (Jour RUSI—Aug 1933)

MOTORIZATION

Modern mobile units. (Cav Jour [GB]—Oct 1933)
 Plans for army motorization. (A&N Jour—4 Nov 1933)
 Armored fighting vehicles in action. (Inf Jour—Sep-Oct 1933)

NAT DEF-QM SERV

The influence of mechanization and motorization on the organization and training of the non permanent active militia. (Can Def Quar—Oct 1933)
The problem of cavalry. (Rv de Cav—Sep-Oct 1933)
The war of tomorrow. The motorization of the cavalry. (Cav Sch ML—15 Dec 1933)
Plan for motorization of army is announced. (A&N Jour—16 Dec 1933)
The French Maneuvers in Champagne in September 1932. (Ws & Wr—Jul 1933)

N

NATIONAL DEFENSE

Foreign affairs. An outline of international political conditions today, our relations to them, and the bearing on the outlook for America's national defense. (MC Gaz—Nov 1933)
America's peace insurance. (A&N Jour—25 Nov 1933)
Pacifism and preparedness. (A&N Jour—25 Nov 1933)
Mr. Woodring on preparedness. (A&N Reg—18 Nov 1933)
Industrial preparedness. (A&N Reg—23 Dec 1933)
Permanent peace. (A&N Reg—23 Dec 1933)
Extracts from the statement of the Government's policy regarding Australian defence. (AN&AF Gaz—7 Dec 1933)
Germany: Germany's air defense of her civil population. (Int Sum [WD]—20 Oct 1933)
Thoughts about the defense of Spain. (Ws & Wr—May 1933)
Changes in French National Defense. (Mil-Woch—4 Jul 1933)
Civil defense against aircraft. (Mil-Woch—18 Jul 1933)
Training of French civil population in gas defense. (Mil-Woch—4 Aug 1933)
Individual and collective protection against gas. (Mil-Woch—18 Aug 1933)
National defense—knowledge and training. (Mil-Woch—25 Aug 1933)

NAVAL WARFARE

A naval operation in Samoa. (Jour RUSI—Aug 1933)
Porter's dire need of bases. (Nav Inst Proc—Nov 1933)
Aero-naval warfare in the Flanders Bight, 1918. (Rv F Aer—Jun 1933)
Attack on bases in naval warfare. (Rv F Aer—Jul 1933)
Naval strategy and tactics. (Rev Ej Mar—Jun 1933)
A few thoughts about the naval situation. (Ws & Wr—Jul 1933)

NIGHT OPERATIONS

Night battles. (Inf Jour—Sep-Oct, Nov-Dec 1933)
Night battles. (Mil-Woch—4, 11, 18 Aug 1933)
Artillery missions in night operations. (Mil-Woch—4 Sep 1933)

OBSTACLES

Construction and destruction of obstacles. (Mil-Woch—11, 18 Aug 1933)

ORDNANCE SERVICE

Early history of American ordnance. (A Ord—Sep-Oct 1933)
A plea for munitions quality. (A Ord—Sep-Oct 1933)
The weight of gun carriages. (A Ord—Sep-Oct 1933)

The identification of firearms. (A Ord—Sep-Oct 1933)
Ordnance district operation in war. (A Ord—Sep-Oct 1933)
Possibilities of centrifugal casting applied to gun manufacture. (Can Def Quar—Oct 1933)
Inspecting munitions production. (A Ord—Nov-Dec 1933)
The modern field piece of the division. (Rev Mil—May 1933)
Some recent developments in automatic arms. (Cav Sch ML—15 Dec 1933)
Army Ordnance notes. (A&N Jour—25 Nov 1933)

OVERSEAS EXPEDITIONS

The German Oesel Expedition in 1917. (Nav Inst Proc—Dec 1933)
The possibility of attaining strategic or tactical surprise in a landing on hostile shores, and methods to be employed. (SC Bul—Nov-Dec 1933)

P

PACIFISM

Pacifism and preparedness. (A&N Jour—25 Nov 1933)

PHOTOGRAPHY (AERIAL)

Aerial photography. (Rv F Aer—Aug 1933)
Night aerial photography. (A&N Jour—16 Dec 1933)

POLAND (ARMY OF)

Polish winter exercise in the Poznan region. (Rev Est Mil—May 1933)
Breeding (horse) in Poland. (Rv de Cav—Jul-Aug 1933)
Poland in case of war. (Mil-Woch—11 Jul 1933)
The Polish cavalry. (Mil-Woch—11 Aug 1933)
Poland's military leadership and principles. (Mil-Woch—11 Sep 1933)

PORTUGAL (ARMY OF)

Portugal: Antiaircraft material. (Rv d'Art—Aug 1933)

PRINCIPLES OF WAR

Principles. (Ftg Forc—Oct 1933)
Aviation and the principles of war. (Rev Mil—Jun 1933)

Q

QUARTERMASTER SERVICE

Traffic control. Motor transport and its strategic employment. (QM Rev—Nov-Dec 1933)
Spending a million a day. (QM Rev—Nov-Dec 1933)
Modern war requirements. (Rv d'Inf—May 1933)
The Royal Army Service Corps and its training objectives. (Roy A Serv C Quar—May 1933)
Some recent changes in the organization for ammunition supply. (Roy A Serv C Quar—May 1933)
The principles of maintenance of R.A.S.C. M.T. units in the field. (Roy A Serv C Quar—May 1933)
The Army and its petrol requirements in war. (Roy A Serv C Quar—May 1933)
The organization and operation of a heavy repair shop on a temporary basis in the field. (Roy A Serv C Quar—May 1933)
The operation of vehicle collecting centres in war. (Roy A Serv C Quar—May 1933)
Co-operation and the training of the R.A.S.C. for war. (Roy A Serv C Quar—May 1933)
Forage requirements during sea transit. (Roy A Serv C Quar—May 1933)

The organization of the R.A.S.C. in the Territorial Army. (Roy A Serv C Quar—May 1933)

The cold storage problem in the field. (Roy A Serv C Quar—May 1933)

The supply and transport directorate in the field. (Roy A Serv C Quar—May 1933)

Observations and suggestions for the Quartermaster Service of the Army. (Rev Ej Mar—Jun 1933)

System of supply. (Ws & Wr—May 1933)

R

RETROGRADE MOVEMENTS

Retrograde movements. (Rev Mil—May 1933)

RIVER CROSSINGS

August 15, 1914 on the Meuse. Battle of Dinant. (Rv Mil Fran—Apr 1933)

A crossing of the Rhine in 1848. (Rv Mil Fran—Apr, May, Jun 1933)

The crossing of the Ru-Kuchuk. Operations against Sheikh Achmed of Barzan, Kurdistan, 1932. (Roy Eng Jour—Dec 1933)

What equipment is necessary to force stream crossings? (Rv Gen Mil—Jan-Feb 1933)

Cavalry crossing of an unfordable river in the Philippines. (Cav Jour—Sep-Oct 1933)

River crossings. (Bul Belge Mil—Jul, Aug 1933)

Examples of river crossings during the mobile warfare of the first years of the World War. [See Section 4]

ROUTES COMMUNICATIONS

Highways Military Roads

Military roads. (A Quar—Oct 1933)

RUMANIA (ARMY OF)

Training of Rumanian infantry. (Mil-Woch—4 Jul 1933)

RUSSIA (ARMY OF)

Recollections of war-time Russia. (Rv d'Hist—Jul 1933)

The Red Army. (Jour RUSI—Aug 1933)

Russia: "Deep Tactics." (Int Sum [WD]—17 Nov 1933)

Tactical views on the employment of artillery in the Red Army. (Wr & Wf—Feb 1933)

Defense against Chemical Warfare in the Red Army. (Mil-Woch—18 Jul 1933)

Maneuvers of Russian and Japanese air fleets. (Mil-Woch—25 Aug 1933)

S

SERBIA (ARMY OF)

The reorganization of the Serbian Army after the retreat to the Adriatic in 1915-16. (Mil Mitt—Aug 1933)

SIGNAL SERVICE

Signal communication between the headquarters staffs during the warfare of movement in 1914. (SC Bul—Sep-Oct 1933)

Division Signal and Liaison School, Eighty-first Division, Camp Jackson, Columbia, S.C. (SC Bul—Sep-Oct 1933)

Signal operations in the defense forces (Red) during the joint anti-aircraft-Air Corps exercises, Fifth Corps Area, May 1933. (SC Bul—Nov-Dec 1933)

Signal communications in the First Pursuit Group during the joint anti-aircraft-Air Corps exercises, Fifth Corps Area, May 1933. (SC Bul—Nov-Dec 1933)

The contribution of the Cryptographic Bureaus in the World War. (SC Bul—Nov-Dec 1933)

Wireless developments. (Ftg Forc—Oct 1933)

Wireless. (A Quar—Oct 1933)

The adaptability of ultra-short wave radio to Field Artillery communication. (FA Jour—Sep-Oct 1933)

Communications. (Rv Ej Mar—Mar 1933)

Communications control in war. (A&N Jour—16 Dec 1933)

Radio in war. (A&N Reg—30 Dec 1933)

The radio-telemechanics. (Riv Art e Gen—Feb 1933)

The automatic telephone and the army. (Wr & Wf—Jan, Feb 1933)

Report of the joint ministerial commission on radio communication. (Rev Ej Mar—May 1933)

Organization of the signal communications of a division. (Rev Ej Mar—Jun 1933)

SPAIN (ARMY OF)

Length and content of field orders. (Rev Est Mil—May 1933)

The Spanish division as a maneuver unit. (Rev Est Mil—May 1933)

Study of the new regulations governing military cartography. (Rev Est Mil—Jun 1933)

Spain: Light mortars for cavalry. (Rv d'Art—Sep 1933)

Thoughts about the defense of Spain. (Ws & Wr—May 1933)

STATISTICS

The hazard of human flight. (MC Gaz—Nov 1933)

Statistical data concerning the War of 1914-1918. (Rv Mil Fran—Apr 1933)

War casualties and replacements. (Ws & Wr—Jul 1933)

SUPPLY

Procurement planning for war. (Nav Inst Proc—Nov 1933)

Essay: "Discuss the tactical employment of light tanks, (a) with Cavalry, (b) with Infantry, in both the plains of India and in the mountainous country of the North-West Frontier. Particular reference should be made to the problems of maintenance and supply." (Jour USII—Oct 1933)

Modern war requirements. (Rv d'Inf—May 1933)

Infantry discussions. Ammunition supply. (Rev Mil—May & Jun 1933)

The organization of the supply services, French Army. (Rv Ej Mar—Mar 1933)

Some recent changes in the organization for ammunition supply. (Roy A Serv C Quar—May 1933)

The Army and its petrol requirements in war. (Roy A Serv C Quar—May 1933)

The dropping of supplies by aircraft. (Roy A Serv C Quar—May 1933)

The operation of vehicle collecting centres in war. (Roy A Serv C Quar—May 1933)

Forage requirements during sea transit. (Roy A Serv C Quar—May 1933)

The supply and transport directorate in the field. (Roy A Serv C Quar—May 1933)

The subsistence service. (Rev Ej Mar—May 1933)

Clothing and equipment for the army. (Rev Ej Mar—Jun 1933)

The supplying of Verdun during the World War. (Rev Ej Mar—Jun 1933)

System of supply. (Ws & Wr—May 1933)

SWEDEN (ARMY OF)

Sweden: New field equipment for infantry. (Rv d'Inf—Apr 1933)

SWITZERLAND (ARMY OF)

The new organization of the Swiss Army. (Ws & Wr—Sep 1933)

T

TACTICS OPERATIONS

General Topics

Military maneuvers and exercises of combined arms. (Rev Est Mil—Jun 1933)
The offensive in future warfare: A French view. (Jour RUSI—Aug 1933)
Some reflections on modern military tactics. (Jour RUSI—Aug 1933)
The Crimean Campaign through the light of the Great War. (Jour R Art—Oct 1933)
Extracts from "The Conduct of War," by Marshal Foch. II.—The results of victory. (Jour R Art—Oct 1933)
A sand table exercise for noncommissioned officers. (Rv d'Inf—Mar 1933)
Russia: "Deep Tactics." (Int Sum [WD]—17 Nov 1933)
Questions arising in combat training. (Mil Mitt—Aug, Sep 1933)
The conduct of a holding attack. [See Section 2]

Defensive Combat

Air defence. (Jour RUSI—Aug 1933)
Some reflections on modern military tactics. (Jour RUSI—Aug 1933)
The role of defensive pursuit. (CA Jour—Nov-Dec 1933)
A sand table exercise for non-commissioned officers. (Rv d'Inf—Mar 1933)
The infantry regiment in defense—illustrative problem. (Rv d'Inf—May 1933)
Retrograde movements. (Rev Mil—May 1933)
Common sense of camouflage defense. (Mil Eng—Jan-Feb 1934)
Camouflage. A discussion of Chapter IV of the Austrian Field Service Regulations. (Mil Mitt—Jan 1933)
Considerations relative to active defense against low-flying aircraft. (Bul Belge Mil—Aug 1933)
Defensive organization of a battery position. (Bul Belge Mil—Aug 1933)
The defensive maneuver. (Rv Mil Fran—Jun 1933)

Offensive Combat

Some reflections on modern military tactics. (Jour RUSI—Aug 1933)
The attack problem from an infantry point of view. (Can Def Quar—Oct 1933)
A reconnaissance group on security and in an offensive march. (Rv de Cav—Jul-Aug 1933)
The development. (Rv Mil Fran—Apr, May 1933)
Employment of a regiment of heavy artillery in the approach and battle. (Riv Art e Gen—Feb 1933)
The artillery preparation in the attack. (Bul Belge Mil—Jul 1933)

Reconnaissance

A reconnaissance group on security and in an offensive march. (Rv de Cav—Jul-Aug 1933)
Cavalry in close reconnaissance. (Es e Naz—Apr 1933)
The fate of riders in enemy country: A lesson for modern reconnaissance troops. (Mil-Woch, 18, 25 Jul 1933)

Special warfare

Night battles. (Inf Jour—Sep-Oct, Nov-Dec 1933)
The possibility of attaining strategical or tactical surprise in a landing on hostile shores, and methods to be employed. (SC Bul—Nov-Dec 1933)

The tactics and technique of small wars. Part III.—Functions of the personnel (first) section of the Staff. (MC Gaz—Nov 1933)
Breakthrough in mountainous terrain: Caporetto. (Rv d'Inf—Mar 1933)
The ambush at Taguerount the night 15-16 January 1932. (Rv de Cav—Sep-Oct 1933)
August 15, 1914 on the Meuse. Battle of Dinant. (Rv Mil Fran—Apr, May 1933)
A crossing of the Rhine in 1848. (Rv Mil Fran—Apr, May 1933)
The crossing of the Ru-Kuchuk. Operations against Sheikh Achmed of Barzan, Kurdistan, 1932. (Roy Eng Jour—Dec 1933)
Manoeuvres in Egypt. The battle of Geran-el-ful. (Roy Tk C Jour—Nov 1933)
The ascension to the top of a high mountain in winter. (Es e Naz—Apr 1933)
The occupation of Rodi, May 4-16, 1912. (Es e Naz—May 1933)
A concrete example of colonial tactics. Contact with small isolated units equipped with modern weapons. (Bul Belge Mil—Aug 1933)
Night battles. (Mil-Woch—4, 11, 18 Aug 1933)

Troop Movements

March technique. (Rv d'Inf—Mar 1933)

TANKS

Armored fighting vehicles in action. (CA Jour—Sep-Oct 1933)
The origin of the tank! (Roy Tk C Jour—Oct 1933)
Tank combat study—Cambrai. (Rev Est Mil—Jun 1933)
Artillery support of an infantry attack with tanks. (Rv d'Art—Sep 1933)
Armored fighting vehicles in action. (Inf Jour—Sep-Oct 1933)
Essay: "Discuss the tactical employment of light tanks, (a) with Cavalry, (b) with Infantry, in both the plains of India and in the mountainous country of the North-West Frontier. Particular reference should be made to the problems of maintenance and supply." (Jour USII—Oct 1933)
The problem of vision in armored cars and tanks. (Rv de Cav—Jul-Aug 1933)
Manoeuvres in Egypt. The battle of Geran-el-ful. (Roy Tk C Jour—Nov 1933)
The problem of dealing with casualties in a force of armored fighting vehicles. (Roy Tk C Jour—Dec 1933)
Tank inspection. (Roy Tk C Jour—Dec 1933)
Foreign tactical conceptions of the employment of tanks. (Riv Art e Gen—Feb 1933)
The Austrian tank, Model 1911. (Wr & WI—Jan 1933)
The French Maneuvers in Champagne in September 1932. (Ws & Wr—Jul 1933)
Mines against tanks. (Mil-Woch—25 Aug 1933)
The fighting tanks since 1916. [See Section 4]

TECHNOLOGY

Photography

Arms and the celluloid. (SC Bul—Sep-Oct 1933)

Signals

The contributions of the Cryptographic Bureau in the World War. (SC Bul—Nov-Dec 1933)

TRANSPORTATION

Traffic control. Motor transport and its strategic employment. (QM Rev—Nov-Dec 1933)
The horse as a means of transportation superior to the motor for South America. (Rev Mil—May 1933)

Light weight transport. (Mil Eng—Nov-Dec 1933)
The British military railway at Longmoor. (Wr & Wf—Feb 1933)
System of supply. (Ws & Wr—May 1933)

U

UNITED STATES (ARMY OF)

Command and Staff

Labor urged to fight iniquitous pay freeze (A&N Jour—7 Oct 1933)
Budget "experts" study abandonment of posts. (A&N Jour—7 Oct 1933)
The Inspector General's Department of the Army. (A&N Jour—7 Oct 1933)
Opposition to pay cut grows; study Navy bill. (A&N Jour—21 Oct 1933)
Chief of National Guard Bureau addresses Army War College. (A&N Jour—21 Oct 1933)
Announce War College, Leavenworth policies. (A&N Jour—28 Oct 1933)
How to prepare for service in the tropics. (A&N Jour—28 Oct 1933)
Plans for army motorization. (A&N Jour—4 Nov 1933)
Revision of Army-Navy pay system advocated. (A&N Jour—4 Nov 1933)
Army efficiency reports. (A&N Jour—4 Nov 1933)
Army technical construction. (A&N Jour—4 Nov 1933)
Modern Army planned by General MacArthur. (A&N Jour—11 Nov 1933)
Move to strengthen 'B' Board, set standards. (A&N Jour—11 Nov 1933)
Post Exchange operation—Some suggestions and remarks. (CA Jour—Nov-Dec 1933)
Defense merger study involves USCG shift. (A&N Jour—25 Nov 1933)
Chief of Staff warns nation of Army's state. (A&N Jour—2 Dec 1933)
America's peace insurance. (A&N Jour—25 Nov 1933)
President to give back only third of pay cut. (A&N Jour—9 Dec 1933)
Swanson urges repeal of pay cut and "freeze." (A&N Jour—9 Dec 1933)
Plan for motorization of army is announced. (A&N Jour—16 Dec 1933)
Communications control in war. (A&N Jour—16 Dec 1933)
End of "pay freeze" seen; cut undecided. (A&N Jour—23 Dec 1933)
A modern army. (A&N Jour—23 Dec 1933)
Services look back on tumultuous year. (A&N Jour—30 Dec 1933)
The War Department General Staff. (A&N Jour—30 Dec 1933)
Retired officer's pay. (A&N Reg—7 Oct 1933)
Army War College class. (A&N Reg—28 Oct 1933)
Army foreign service. (A&N Reg—28 Oct 1933)
Oliver on service pay. (A&N Reg—4 Nov 1933)
Removal of pay cut. (A&N Reg—4 Nov 1933)
Urges modern army. (A&N Reg—18 Nov 1933)
Refuses to dignify debate. (A&N Reg—25 Nov 1933)
The pay study. (A&N Reg—2 Dec 1933)
Administration air minded. (A&N Reg—2 Dec 1933)
The state of the Army. (A&N Reg—2 Dec 1933)
Parity of pay determined. (A&N Reg—9 Dec 1933)
Proposed army legislation. (A&N Reg—16 Dec 1933)

Health of the Army. (A&N Reg—23 Dec 1933)
Citizenship rights. (A&N Reg—30 Dec 1933)
Recognition of merits and deficiencies. (Cav Jour—Sep-Oct 1933)
The Civilian Conservation Corps. (Mil Eng—Jan-Feb 1934)
The Third Army. (A&N Reg—4 Nov 1933)

Organization and Equipment

Viewing our peace-time infantry organization. (Inf Jour—Nov-Dec 1933)
Procurement planning for war. (Nav Inst Proc—Nov 1933)
Combating wear in military equipment. (Mil Eng—Nov-Dec 1933)

Training

Air maneuvers on the West coast. (CA Jour—Sep-Oct 1933)
Tentative infantry drill regulations, 1932. (A&N Jour—28 Oct 1933)
Citizenship training in Citizen Military Training Camps. (Inf Jour—Nov-Dec 1933)
Division Signal and Liaison School, Eighty-first Division, Camp Jackson, Columbia, S.C. (SC Bul—Sep-Oct 1933)
Arms and the celluloid. (SC Bul—Sep-Oct 1933)
Signal operations in the defense forces (Red) during the joint antiaircraft-Air Corps exercises, Fifth Corps Area, May 1933. (SC Bul—Nov-Dec 1933)
Signal communications in the First Pursuit Group during the joint antiaircraft-Air Corps exercises, Fifth Corps Area, May 1933. (SC Bul—Nov-Dec 1933)
The education of a marine officer. III.—United States Army and Navy Service Schools. (MC Gaz—Nov 1933)
Army War College class. (A&N Reg—28 Oct 1933)
National Rifle Matches. (A&N Reg—18 Nov 1933)
An American landing maneuver. (Mil Mitt—Aug 1933)

UNITED STATES (NAVY OF)

Porter's dire need of bases. (Nav Inst Proc—Nov 1933)

Command and Staff

Opposition to pay cut grows; study Navy bill. (A&N Jour—21 Oct 1933)
Revision of Army-Navy pay system advocated. (A&N Jour—4 Nov 1933)
Navy may have Board study revision of pay. (A&N Jour—18 Nov 1933)
A Navy view of the Monroe Doctrine. (A&N Jour—18 Nov 1933)
The Navy's future fuel problem. (Nav Inst Proc—Oct 1933)
Underage naval tonnage. (A&N Reg—4 Nov 1933)
Secretary of Navy's report. (A&N Reg—9 Dec 1933)
Naval annual reports. (A&N Reg—23 Dec 1933)
Navy building program. (A&N Reg—30 Dec 1933)
Navy annual reports. (A&N Reg—30 Dec 1933)
Maximum navies for Japan and U.S.A. (AN& AF Gaz—7 Sep 1933)
American cruiser building. (AN&AF Gaz—5 Oct 1933)

Training

Fleet Naval Reserve training outlined. (A&N Jour—4 Nov 1933)
Fleet to hold scouting problem in Caribbean. (A&N Jour—11 Nov 1933)
Aerial bombardment of fleet bases. (Nav Inst Proc—Oct 1933)

VAU-WORLD WAR—E

The education of a marine officer. III.—United States Army and Navy Service Schools. (MC Gaz—Nov 1933)

V

VAUBAN, Marshal Sébastien de (1633-1707)

Vauban and the Belgian frontier. (Bul Belge Mil—Jul 1933)

Vauban at the siege of Mons. (Bul Belge Mil—Aug 1933)

VEHICLES

Utilization of "Railroute" vehicles by railroad engineers. (Rv Gen Mil—Mar-Apr 1933)

A combined railroad and road vehicle. (Wr & Wf—Jan 1933)

VETERINARY SERVICE

A contribution to the study of hip disease. (Rev Mil—Jun 1933)

W

WAR PEACE

War and peace in the machine age. (A Ord—Sep-Oct 1933)

Permanent peace. (A&N Reg—23 Dec 1933)

Real causes of war. (AN&AF Gaz—14 Sep 1933)

Children and war. (AN&AF Gaz—14 Sep 1933)

Peace abroad, war at home. (AN&AF Gaz—12 Oct 1933)

The "New Spirit" and its critics. (For A—Oct 1933)

War casualties and replacements. (Ws & Wr—Jul 1933)

The propaganda menace. [See Section 4]

WARS

ANCIENT

The siege of Malta—A coast defence epic. (CA Jour—Sep-Oct 1933)

The soldier of antiquity. (Rv d'Inf—Apr 1933)

Prince Eugene of Savoy as a military leader. (Mil Mitt—Jul 1933)

Vauban and the Belgian frontier. (Bul Belge Mil—Jul 1933)

Vauban at the siege of Mons. (Bul Belge Mil—Aug 1933)

AFRICA

MOROCCO

Campaign (1919-)

Armored fighting vehicles in action. (Inf Jour—Sep-Oct 1933)

ASIA

INDIA

Sepoy Rebellion [Indian Mutiny] (1857-1858)

The relief of Lucknow. (With General Sir Colin Campbell from the 1st to the 22nd November 1857.) Jour USII—Oct 1933)

Four men on the ridge. Echoes of a forgotten controversy. I.—A conqueror unwilling. General Sir Archdale Wilson, Bart., of Delhi, G.C.B., etc. (A Quar—Oct 1933)

Waziristan Campaign (1919-1923)

The Waziristan Campaign, 1919-1920, 1923. (MC Gaz—Nov 1933)

JAPAN-RUSSIA (1904-1905)

A study of the strategy and tactics of the Russo-Japanese War, 1904. [See Section 4]

JAPAN-CHINA (1931-1933)

China and Japan. (Jour RUSI—Aug 1933)

Armored fighting vehicles in action. (Inf Jour—Sep-Oct 1933)

The final battles in Manchuria and considerations about the Pacific problem. (Mil Mitt—Jun 1933)

EUROPE

17th CENTURY

Thirty Years' War (1618-1648)

Cromwell in Lancashire. The campaign of Preston, 1648. (A Quar—Oct 1933)

Siege of Vienna (1683)

The significance of the year 1683 in the history of the world. (Mil Mitt—Sep 1933)

The second siege of Vienna in 1683. (Mil Mitt—Sep 1933)

From the war for the German Eastern Area: Vienna, 1683. (Mil-Woch—11 Sep 1933)

NAPOLEONIC WARS (1795-1815)

The health of Napoleon during the Waterloo Campaign, with particular reference to the events of the 17th of June. (A Quar—Oct 1933)

Maneuver. A conference. (Rv Ej Mar—Mar 1933)

The campaign of 1809 in Germany. (Rv Ej Mar—Mar 1933)

A contemporary account of Waterloo. (AN&AF Gaz—14 Dec 1933)

CRIMEAN WAR (1853-1856)

The Crimean Campaign through the light of the Great War. (Jour R Art—Oct 1933)

FRANCE-GERMANY (1870-1871)

Extracts from "The Conduct of War," by Marshal Foch. II.—The results of victory. (Jour R Art—Oct 1933)

RUSSIA-POLAND (1920)

Armored fighting vehicles in action. (Inf Jour—Sep-Oct 1933)

The Russian-Polish War of 1919-1920. (Mil Mitt—Jun 1933)

UNITED STATES

REVOLUTION (1775-1783)

Arnold's expedition to Quebec, 1775. (FA Jour—Sep-Oct 1933)

WAR OF 1812 (1812-1814)

Porter's dire need of bases. (Nav Inst Proc—Nov 1933)

WORLD WAR (1914-1918)

E—General Military History

The United States and the first Russian revolution, March-November 1917. (Rv d'Hist—Jan 1933)

The United States Senate and the Versailles treaty. (Rv d'Hist—Jan 1933)

Belgium and the German invasion. (Rv d'Hist—Jan 1933)

Government and Press during the World War. (Rv d'Hist—Apr 1933)

Historical sources concerning the war in Italy. (Rv d'Hist—Apr 1933)

The official history of the War. (Rv d'Hist—Jul 1933)

Recollections of war-time Russia. (Rv d'Hist—Jul 1933)

An interview between Emperor Charles of Austria-Hungary and the Archduke Joseph. (Rv d'Hist—Jul 1933)

The war memoirs of Archduke Joseph. (Inf Jour—Sep-Oct, 1933)

America's responsibility to the Armistice. (Nav Inst Proc—Nov 1933)
 The Crimean Campaign through the light of the Great War. (Jour R Art—Oct 1933)
 The French official account of the Marne, 1914. Franchet d'Espèrey's Army. (A Quar—Oct 1933)
 Tales of a Veteran. (Rv d'Inf—May 1933)
 Studies of World War propaganda, 1914-33. (Jour Mod Hist—Dec 1933)
 Statistical data concerning the War of 1914-1918. (Rv Mil Fran—Apr 1933)
 The diary of an R.E. subaltern with the B.E.F. in 1914. (Roy Eng Jour—Dec 1933)
 War debts. (Int Con—Nov 1933)
 Field Marshal Radomir Putnik, Serbian Army. (Cav Jour—Nov-Dec 1933)
 Conrad von Hötzendorf and the question of war guilt. (Mil Mitt—Jun, Jul 1933)
 The evolution of the Tyrol line of defense. (Mil Mitt—Jun 1933)
 Who prepared the World War? (Mil Mitt—Aug 1933)
 Rumania's entrance into the World War and General Alexejew, Chief of Staff of the Russian Army. (Mil Mitt—Aug 1933)
 Volume IX of the German Official History of the World War. (Mil Mitt—Sep 1933)
 The French War Survey Department in North-east France, 1914-1918. (Wr & Wf—Feb 1933)
 History of the Belgian Army during the World War, 1914-1918.—Operations of the 9th Carabiniers on the 9th of September 1918. (Bul Belge Mil—Jul 1933)
 The supplying of Verdun during the World War. (Rev Ej Mar—Jun 1933)
 French industrial preparedness at the beginning of the World War. (Ws & Wr—Jul 1933)
 The Austro-Hungarian Army in the World War. (Ws & Wr—Sep 1933)
 Europe since the War. [See Section 4]
 Austria-Hungary's last war, 1914-1918. [See Section 4]

G—Arms and Services

ARTILLERY

Supporting an infantry division. (FA Jour—Sep-Oct 1933)
 The first battle of Romagne. (FA Jour—Nov-Dec 1933)

CAVALRY

The cavalry in France, March-April, 1918. (Cav Jour [GB]—Oct 1933)
 Cavalry in the Great War: A brief retrospect. (Cav Jour [GB]—Oct 1933)
 Supporting an infantry division. (FA Jour—Sep-Oct 1933)
 The threat on Paris and the cavalry battle of Nèry, 1 September, 1914. (Rv de Cav—Sep-Oct 1933)
 The German cavalry in the Roumanian campaign—1916. (Cav Jour—Nov-Dec 1933)
 History of the Belgian Army during the World War, 1914-1918.—Operations of the 9th Carabiniers on the 9th of September 1918. (Bul Belge Mil—Jul 1933)

ENGINEERS

The diary of an R.E. subaltern with the B.E.F. in 1914. (Roy Eng Jour—Dec 1933)
 Drainage of a section of the trench area: France, 1915-16. (Roy Eng Jour—Dec 1933)
 An example of road making in war. (Mil Mitt—Jun 1933)

INFANTRY

Operations of the 1st Platoon, Co. B, 38th Infantry. (Inf Jour—Sep-Oct 1933)

Operations of Co. H, 60th Infantry, in the Meuse-Arnonne offensive. (Inf Jour—Nov-Dec 1933)

A regiment of Czechoslovak Infantry in the combat at Vouziers, October 1918. (Rv d'Inf—Mar 1933)

Note on the comparative armament of French and German infantry in 1914. (Rv d'Inf—Apr 1933)

Supporting an infantry division. (FA Jour—Sep-Oct 1933)

MEDICAL SERVICE

The Medical Service of the French Army during the World War. (Mil Surg—Oct 1933)

SIGNAL SERVICE

Signal communication between the headquarters staffs during the warfare of movement in 1914. (SC Bul—Sep-Oct 1933)

The contribution of the Cryptographic Bureaus in the World War. (SC Bul—Nov-Dec 1933)

TANKS

Tank combat study—Cambrai. (Rev Est Mil—Jun 1933)

H—Military Conduct of the War in the Field

The grand strategy of the World War. (CA Jour—Sep-Oct, Nov-Dec 1933)

The German Intelligence Service during the World War. (CA Jour—Nov-Dec 1933)
 Night battles. (Inf Jour—Sep-Oct, Nov-Dec 1933)

Signal communication between the headquarters staffs during the warfare of movement in 1914. (SC Bul—Sep-Oct 1933)

The supplying of Verdun during the World War. (Rev Ej Mar—Jun 1933)

System of supply. (Ws & Wr—May 1933)
 Night battles. (Mil-Woch—4, 11, 18 Aug 1933)

Examples of river crossings during the mobile warfare of the first years of the World War. [See Section 4]

J—Campaigns and Battles

ASIATIC AREA—TURKISH THEATER

With the British Army in Constantinople. A personal narrative. (A Quar—Oct 1933)

ASIA MINOR FRONT

Armored fighting vehicles in action. (Inf Jour—Sep-Oct 1933)

EGYPTIAN FRONT

Armored fighting vehicles in action. (Inf Jour—Sep-Oct 1933)

MESOPOTAMIAN FRONT

With Townshend at Kut. (AN&AF Gaz—7, 14, 21 Sep 1933)

EUROPEAN AREA—BALKAN THEATER

GRECIAN FRONT

The grand strategy of the World War. (CA Jour—Nov-Dec 1933)

RUMANIAN FRONT

The German cavalry in the Roumanian campaign—1916. (Cav Jour—Nov-Dec 1933)

SERBIAN FRONT

The grand strategy of the World War. (CA Jour—Nov-Dec 1933)

The reorganization of the Serbian Army after the retreat to the Adriatic in 1915-16. (Mil Mitt—Aug 1933)

EUROPEAN AREA—ITALIAN THEATER

Breakthrough in mountainous terrain: Caporetto: (Rv d'Inf—Mar 1933)

WORLD WAR—J-L

The situation at the lower Piave before and after the June battle of 1918. (Mil Mitt—Jul 1933)
 The victory on the Piave. (Es e Naz—May 1933)
 The evolution of the Tyrol line of defense. (Mil Mitt—Jun 1933)
 Notes on the 1916 Tyrol offensive. (Mil Mitt—Jul 1933)

EUROPEAN AREA—RUSSIAN THEATER

The German landing in Finland, April, 1918. (A Quar—Oct 1933)
 The first drive against Warsaw, 1914. (Rv Mil Fran—May 1933)

EUROPEAN AREA—WESTERN THEATER 1914

Night battles. (Inf Jour—Sep-Oct, Nov-Dec 1933)
 The advance from Mons. (Ftg Forc—Oct 1933)
 The French official account of the Marne, 1914. Franchet d'Espèrey's Army. (A Quar—Oct 1933)
 The VI Corps in the Battle of the Frontiers, 22 August 1914. (Rv d'Inf—Apr 1933)
 Operations of the 12th Division on the 21st and 22d of August, 1914. (Rv d'Inf—May 1933)
 The defense of the gap between the armies of von Kluck and von Bülow by Marwitz and Richthofen cavalry corps, 6-9 September 1914. (Rv de Cav—Jul-Aug, Sep-Oct 1933)
 The threat on Paris and the cavalry battle of Nèry, 1 September, 1914. (Rv de Cav—Sep-Oct 1933)
 The development. (Rv Mil Fran—Apr, May 1933)
 The battle of the Marne and the race to the sea. (Rv Mil Fran—Apr, May, Jun 1933)
 August 15, 1914 on the Meuse. Battle of Dinant. (Rv Mil Fran—Apr 1933)
 The Battle of Cernay, 9 August 1914. (Rv d'Art—Oct 1933)
 Maneuver. A conference. (Rv Ej Mar—Mar 1933)

The fate of riders in enemy country: A lesson for modern reconnaissance troops. (Mil-Woch—18, 25 Jul 1933)
 Night battles. (Mil-Woch—4, 11, 18 Aug 1933)
 Faulty cavalry employment. Battle at Pilon, 10 August 1914. (Mil-Woch—25 Aug, 4 Sep 1933)

1917

Operations of the 1st Platoon, Co. B, 38th Infantry. (Inf Jour—Sep-Oct 1933)

1918

The cavalry in France, March—April, 1918. (Cav Jour [GB]—Oct 1933)
 Tank combat study—Cambrai. (Rev Est Mil—Jun 1933)
 Armored fighting vehicles in action. (Inf Jour—Sep-Oct 1933)
 Operations of Co. H, 60th Infantry, in the Meuse-Argonne offensive. (Inf Jour—Nov-Dec 1933)
 A regiment of Czechoslovak Infantry in the combat at Vouziers, October 1918. (Rv d'Inf—Mar 1933)
 Crossing of the Marne in July 1918. (Rv d'Inf—Mar 1933)
 Supporting an infantry division. (FA Jour—Sep-Oct 1933)
 The first battle of Romagne. (FA Jour—Nov-Dec 1933)
 What equipment is necessary to force stream crossings? (Rv Gen Mil—Jan-Feb 1933)
 History of the Belgian Army during the World War, 1914-1918.—Operations of the 9th Carabiniers on the 9th of September 1918. (Bul Belge Mil—Jul 1933)
 Attacks of the 1st Chasseurs (Foot) on the 30th of September, the 1st and 2d of October 1918. (Bul Belge Mil—Aug 1933)

L—Naval History

The German Oesel Expedition in 1917. (Nav Inst Proc—Dec 1933)
 Up the river. (Ftg Forc—Oct 1933)
 Aero-naval warfare in the Flanders Bight, 1918. (Rv F Aer—Jun 1933)

sson
Mil-
933)
llon,
g, 4

La-

918.

Il-

Jour

the

Nov-

the

(Rv

I'Inf

ur-

Nov-

eam

orld

ara-

(Bul

30th

918.

Nav

918.